INTERVENTION AND EFFICIENCY

A Study of
Government Credit and
Credit Guarantees
to the Private Sector

Economic Council
of Canada
1982

ERRATUM

Page 56, last paragraph, left column, 5th line should read as follows:
"sixteen companies received half of the 415 loans to 138 identified companies"

Intervention and Efficiency

ECONOMIC COUNCIL OF CANADA

Intervention and Efficiency

A Study of Government Credit and Credit Guarantees to the Private Sector

1982

© Minister of Supply and Services Canada 1982

Available in Canada through

Authorized Bookstore Agents
and other bookstores

or by mail from

Canadian Government Publishing Centre
Supply and Services Canada
Ottawa, Canada, K1A 0S9

Catalogue No. EC 22-111/1982E
ISBN 0-660-11200-0

Canada: $ 9.95
Other countries: $11.95

Price subject to change without notice

Contents

Members of the Economic Council ix

1 The Role of Government in Financial Markets 1
The Intermediation of Monies and Risks 1
Financial Instruments 2
Private Intermediaries 2
Government Intervention 3
A Brief History 4
Objectives 5
Sectoral Aspects 5
Procedures 7
Impact 8
Scope of the Report 9

2 The Government's Choices 11
The Choice of the Market of Intervention 11
Obstacles 11
Externalities 12
Public Goods 12
Uninsurable Risks 13
Problems in Other Markets 13
The Choice of Financial Instruments 13
Instruments Specific to a Firm or Individual 14
Subsidies and Subsidized Instruments 14
The Choice of a Particular Instrument 14
The Cost of Intervention 15

3 Business Assistance 17
The Place of Government in Business Finance 17
History 19
Objectives 20
The Business Finance Market 20
The Loan Market 21
The Equity Market 27
Government in Business Finance 29
Correcting Market Imperfections 29
Promoting Economic and Social Development 36
Conclusion 40

4 Export Finance **43**
Objectives 43
The Instruments of Intervention 44
Credit Insurance 44
Export Credit 45
The Correction of Market Imperfections 46
The Credit Insurance Market 47
The Export Finance Market 49
The Promotion of Economic Development 51
The Effect on the Current Account Deficit 52
Trade Diversification 52
Economies of Scale, Job Creation, and Subsidies 55
Matching Foreign Export Assistance Programs 57
Conclusion 60

5 Housing Assistance **63**
Institutions 63
History 63
Instruments 66
The Mortgage Market 67
Major Uses of Funds 67
Sources of Funds 68
Objectives of Government Assistance 70
Correcting Market Imperfections 71
The Socio-Economic Dimension 71
Improving the Mortgage Insurance Market 72
Improving the Mortgage Loan Market 75
Credit Gaps and Market Rigidities 75
Problems of Access to Homeownership 76
The Need for New Mortgage Instruments 78
The Indexed Mortgage 78
Improvement of the Housing Stock and Income Redistribution 81
Indirect Subsidies 81
The Choice of Beneficiaries 81
Stabilization of the Construction Industry 84
Conclusion 86

6 Farm Assistance **87**
Government Agencies 87
History 87
Institutions 88
Objectives 88
Correcting Credit Gaps 90
Increased Financing Needs 90
The Growing Importance of Private Financial Institutions 92
The Need for a New Financial Instrument 99
Socio-Economic Goals 103
Assistance to Young Farmers 103
Viability and Stability 104
The Maintenance of a Minimum Income and the Development of Specific Products 105
Conclusion 105

7 Efficiency and Control 107
Technical Efficiency 107
Administrative Costs 107
Bad Debts 107
Management Procedures 108
Government Control 110
Exercising Control 110
Instruments of Control 110
Conclusion 117

8 An Overview 119
Public Loan and Guarantee Programs 119
Government Assistance and Resource Allocation 120
Market Imperfections 120
Government Intervention in the Absence of Financial Market Imperfections 120
Government Loans and Loan Guarantees and Stabilization Policies 123
Monetary Policy 124
Fiscal Policy 125
The Achievement of Government Objectives with Financial Instruments 125

Recommendations 127

Appendixes

A Subsidies Incorporated in Government Loans and Guarantees: Concept and Measurement 131

B Provincial Distribution of Government Assistance 139

C Methods of Subsidization and Business Behaviour 145

D Government Support of Export Credits among the OECD Countries 149

E The Impact of Export Credit Subsidies on the Economy 159

F Indexed Mortgages 163

Notes 169

List of Tables and Charts 179

Project Staff 185

This report reflects a consensus of the Economic Council of Canada.

Members of the Economic Council

DAVID W. SLATER, Chairman
PETER M. CORNELL, Director
PATRICK ROBERT, Director

PHILIP C. BARTER*
Partner,
Price Waterhouse and Co.,
Vancouver

PIERRE BRIEN
Vice-President,
Canada Lands Co. (Mirabel) Ltd.,
Ste-Scholastique

ROBERT B. BRYCE*
Retired public servant,
Ottawa

G. CAMPBELL EATON
Managing Director,
Newfoundland Tractor and Equipment Co. Ltd.,
St. John's

EILEEN FORBOM
General Manager,
United Broadcasting Limited,
Sudbury

DONALD F. FORSTER
President,
University of Guelph,
Guelph

SHIRLEY B. GOLDENBERG
Professor, Faculty of Management,
McGill University,
Montreal

T. EARLE HICKEY
Former Minister of Finance of P.E.I.,
Charlottetown

KALMEN KAPLANSKY*
Senior Fellow,
Human Rights Centre,
University of Ottawa,
Ottawa

PIERRE LORTIE*
President,
Montreal Stock Exchange,
Montreal

DONALD H. MCDOUGALL
Partner,
Stewart MacKeen & Covert,
Halifax

ALASTAIR H. ROSS
President,
Allaro Resources Ltd.,
Calgary

PATRICK SHIMBASHI*
Farmer,
Taber, Alberta

RALPH G. M. SULTAN
Vice President,
Starlaw Holdings Ltd.,
Toronto

ROY VOGT
Professor, St. Paul's College,
University of Manitoba,
Winnipeg

*Member of the Council's Advisory Committee.

READER'S NOTE

Throughout this report, financial data pertaining to public agencies and programs are presented for the fiscal year ended as of March 31st or as of the closest year-end date.

The reader should note that various conventional symbols similar to those used by Statistics Canada have been used in the tables:

-- amount too small to be expressed
. . figures not available
. . . figures not appropriate or not applicable
- nil or zero
e estimated figures.

1 The Role of Government in Financial Markets

Canada's private financial institutions exert considerable influence over our daily lives. Here, at least once a month, we deposit or cash our cheques and withdraw the money we need for our everyday expenses. Here, also, we borrow the money to buy a house or car, or invest in a business venture. Here, as well, major transactions occur that affect the cost and uses of money, the location and scope of industrial development projects, the value of the Canadian dollar – in effect, the rate and direction of the country's economic growth and the welfare of its citizens.

City and country dwellers alike are familiar with the neighbourhood or village bank or credit union, with the trust company that provides mortgage loans and manages estates, and with the insurance company that sells various policies covering fire, theft, accidents, and other risks. These are all private firms; as a group, they manage and transfer huge sums of money and are thus at the very heart of Canada's economic activity.

Another group of financial institutions also plays an important role in our economy. Farm Credit Corporation offices in country villages, Federal Business Development Bank branches, with their blue and white signs, and other financial agencies set up by government are also familiar to us. Every day, farmers, businessmen, exporters, and prospective homeowners turn to these government institutions, which include Crown corporations and departmental services, for financial assistance to get them through difficult times or to ensure the success of their business. The overall role played by these public financial organizations is the central focus of this report. But before studying government financing services in detail, we should describe briefly both public and private institutions and examine their common aspects.

The Intermediation of Monies and Risks

Whether public or private, financial institutions play a fundamental role in our economy by amassing funds and transferring them between lenders and borrowers. Such transfers are carried out in financial markets where the supply of savings is brought together to meet the demand for funds. These markets play an essential role in the intermediation of monies and risks between the supply and demand sides, and they provide the machinery necessary for allocating financial resources.

Through the intermediation of monies, financial institutions gather the savings available and redistribute them to those demanding financial capital, on the basis of the anticipated return and degree of risk involved in each project. In other words, the allocation of financial resources takes into account the net profit anticipated for each project and the probability of actually earning this return. This allocation process can be considered efficient if priority in financing is accorded to those projects offering the most favourable return, relative to the risk involved.

Financial markets perform risk intermediation in two ways. First, assembling a widely diversified portfolio pools the risks involved. For the manager of the portfolio, the overall risk is then usually less than the sum of the risks associated with each individual item in the portfolio. Second, spreading the risk over a large number of investors, such as depositors in a bank, decreases the risk borne by any one person. Through risk pooling and spreading, the economy as a whole can carry the risks of various projects at a lower cost.

The intermediation of monies and risks is usually carried out simultaneously. A loan from a chartered bank to a business is an intermediation of monies, since the business obtains financing, but it is also a risk intermediation, since the risk associated with this loan is pooled together with those of the bank's other loans and spread among all of its depositors and shareholders.

Financial institutions contribute to the intermediation of both monies and risks by lowering transaction costs. These institutions save depositors who are seeking a suitable investment the trouble of gathering information on all potential borrowers; the depositor

need only place his trust in a bank, investment dealer, or other financial establishment to which he entrusts his savings. Similarly, borrowers do not have to contact thousands of depositors to obtain the monies they require, but need only develop a relationship with one or two financial institutions.

Financial intermediaries also change the nature of the assets transferred. While depositors often prefer to keep their assets in a very liquid form and in low-risk instruments, borrowers often require funds for a relatively long period to finance high-risk projects. Financial institutions reconcile these divergent aspects by providing depositors with a relatively liquid, low-risk instrument in the form of a deposit or investment certificate, and by using the funds amassed in this manner to acquire less liquid, higher-risk securities from borrowers.

Financial Instruments

Several instruments are employed in the process of financial intermediation of monies and risks. Deposits and investment certificates are used to gather savings which are placed principally through loans and investments in bonds, debentures, or stocks – instruments that permit simultaneous intermediation of both monies and risks. Two other instruments – loan guarantees and credit insurance – pertain to risk intermediation. In this case, the institution does not transfer funds but assumes the risks involved in such a transfer. While loan guarantees and credit insurance are similar in many respects, they differ in their use.

Loan guarantees are used for specific transactions. Thus private-sector loan guarantees always pertain to borrowings by related companies or individuals to assist in their development, as in the case of a guarantee given by a corporation to an affiliated company or by a father who co-signs a loan contracted by his son.

By contrast, credit insurance is not limited to specific transactions, and a large number of individuals and firms can benefit from it without the need for any affiliation with the financial institutions. Two examples are the residential mortgage insurance offered by the privately owned Mortgage Investment Corporation of Canada (MICC) and the credit insurance on exports to the United States provided by the American Credit Indemnity (ACI), both of which are offered to individuals and firms that meet the eligibility conditions set by these two institutions.

Private Intermediaries

The various types of financial instruments just described are used by many agents operating in capital markets. Although firms and individuals may advance monies directly to other firms or individuals and firms may use trade credit, some three-quarters of Canadian savings are channeled through public and private financial institutions. Private financial institutions can be divided into three distinct groups: deposit-taking institutions, institutions with large investment portfolios, and firms that provide specialized financing.

As the name implies, deposit-taking institutions[1] – including chartered banks, credit unions, trust companies, and mortgage companies – gather the public's savings through deposits, which they employ in various ways to help finance Canada's economic activity. These deposit-taking bodies form the largest group of financial institutions in Canada (Table 1-1).

The second group includes intermediaries that hold large portfolios of securities: insurance companies, pension trust funds, mutual funds, and the like. The

Table 1-1

Assets of Selected Financial Institutions, Canada, 1980

	Amount	Distribution
	($ Millions)	(Per cent)
Deposit institutions	293,630	59.8
Chartered banks	216,739	44.1
Trust companies	34,940	7.1
Local and central credit unions[1]	29,458	6.0
Mortgage loan companies	12,493	2.6
Portfolio holding companies	83,618	17.0
Life insurance companies	46,147	9.4
Property and casualty insurance companies	10,407	2.1
Trusteed pension funds[2]	21,526	4.4
Investment funds and closed-end funds	5,538	1.1
Specialized institutions	24,992	5.1
Financial corporations	11,429	2.9
Real estate investment trust and mortgage investment companies	2,177	0.5
Investment dealers	6,593	1.3
Finance leasing corporations	1,993	0.4
Government agencies	89,173	18.1
Federal	52,523	10.7
Provincial	36,650	7.4
Total	491,413	100.0

1 Net of double counting.
2 1979 data.
SOURCE Statistics Canada, *Financial Institutions: Financial Statistics, First Quarter 1982*, Cat. 61-006, and *Trusteed Pension Plans, Financial Statistics*, Cat. 74-201; estimates by the Economic Council of Canada based on the Public Accounts of Canada and of the provinces.

savings used to form their portfolios are gathered through insurance premiums, contributions to pension plans, or the sale of investment units to the public. This group holds about 17 per cent of the assets of all financial institutions operating in Canada.

The third group consists of institutions specializing in certain types of financing. This includes financial corporations dealing in the financing of inventories of durable goods and consumer expenditures of individuals; real estate trust funds and mortgage investment companies that finance residential and nonresidential construction; and leasing companies that finance the purchase of equipment by corporations. Stockbrokers and investment dealers participate in business financing by underwriting the issue of corporate shares and bonds and by helping to maintain an active secondary market for the exchange of securities already in existence. Venture-capital companies help to promote business enterprise by providing equity capital in exchange for a share of ownership. This group also includes institutions that specialize in risk intermediation, particularly the Mortgage Insurance Corporation of Canada and the American Credit Indemnity, mentioned earlier.

Government Intervention

Government is also extensively involved in many different ways in the financial intermediation process. It regulates financial markets directly by stipulating the activities that certain types of financial institution can and cannot undertake, and indirectly by imposing constraints that influence their activities, such as the level of reserves they must keep on hand. It also regulates them through moral suasion.[2] It levies taxes, such as those on investment income and capital gains, and it also extends various types of tax relief – for example, the exclusion of some interest and dividend income. It borrows to finance its investment projects or its budget deficits.

Government is also an important supplier of funds and, in this respect, acts as a financial intermediary. The acquisition by government or a public agency of a loan, mortgage, bond, share, or account receivable represents an intermediation of funds on its part. Similarly, government participates in risk intermediation when it guarantees the repayment of a loan to a private financial institution by a third party or when it provides credit insurance to exporters.

The government's lending and investment activities are normally financed by loans from the public, either through part of the proceeds obtained from regular issues of government bonds or through direct borrowing on financial markets by some public financial institutions. Guarantee and insurance activities are financed in part or in whole through premiums collected from the borrowers who benefit from them. While government's objectives differ, its operations are similar to those of private financial institutions.

Tax concessions and capital grants used to increase a recipient's liquid assets do not, however, correspond to government acquisition of a financial asset; they are not, therefore, considered part of the financial intermediation process. Moreover, capital grants are financed directly from general revenues – an additional reason for not viewing them in the same way as government loans and investments.

Through its financial intermediation activities, government ranks second to the chartered banks among Canada's financial institutions. Most government financial intermediation occurs within the government sector itself. The federal government, for example, advances funds to the provinces; the provinces lend to hospitals, municipalities, or public utilities; one provincial government purchases bonds issued by another provincial government; and so forth. As of March 31, 1979, the private sector accounted for only one-quarter of total government financing and for less than one-half of government guarantees and credit insurance.[3]

Table 1-2

Government Assistance to the Private Sector through Financial Instruments, Canada, Selected Years, 1930-80

	Loans and investments	Loan guarantees and credit insurance	Total	Total as a proportion of GNP
	($ Millions)			(Per cent)
1930	232	576	807	13.2
1939	392	428	820	15.6
1950	575	142	717	4.3
1960	2,058	2,276	4,334	11.8
1970	6,717	5,631	12,348	15.5
1980	19,065	29,365	48,430	18.5

SOURCE Estimates by the Economic Council of Canada based on the Public Accounts of Canada and of the provinces.

This financing, whether in the form of loans, investments, or guarantees, takes place through various government financial intermediation activities, which include the management of a public agency's portfolio (the Caisse de dépôts et placements du Québec or the Alberta Heritage Fund) or assistance granted to the private sector. As of March 31, 1980, government loans and investments outstanding under programs of assistance to the private sector amounted to $19 billion (Table 1-2).[4] In addition, $29 billion in guarantees and credit insurance were also in force. Finally, by charging an interest rate (or premium, in the case of guarantees) that is too low to cover all costs, including the cost of funds and losses incurred by default, government incorporates an element of subsidy in its loans and guarantees; in fiscal 1978-79, this amounted to between $188 million and $906 million, depending on whether ordinary accounting methods are used or whether social opportunity costs are taken into account as well (see Appendix A).

A Brief History

The presence of government in financial markets has gone through several phases. Its actions as a financial intermediary began to take on particular significance in the middle of the nineteenth century, when the federal government of the day helped to finance, through the use of guarantees, the construction of the transcontinental railway. And, although the federal and provincial governments also entered the field of farm financing at about that time and the field of housing finance during the 1930s, financial assistance to the railway companies dominated until the Second World War. The gradual withdrawal of the federal government from this kind of assistance resulted in the absolute decline of total government assistance to the private sector between 1930 and 1950 (Table 1-3). During the same period, financial assistance to agriculture picked up momentum; by 1950, loans and guarantees to that sector accounted for the largest share of government financial assist-

Table 1-3

Growth Rate of Provincial and Federal Government Assistance to the Private Sector through Financial Instruments and of GNP, Canada, Selected Periods, 1930-80[1]

	Loans and investments	Loan guarantees and credit insurance	Total	GNP
		(Per cent)		
1930-80				
Provincial	7.3	5.1	6.5	-
Federal	10.8	8.6	9.1	-
Both levels	9.2	8.2	8.5	7.8
1930-39				
Provincial	7.7	-5.7	3.1	-
Federal	2.5	-2.6	-1.7	-
Both levels	6.0	-3.2	0.2	-1.7
1939-50				
Provincial	-1.5	-1.5	-1.5	-
Federal	11.2	-12.8	-1.0	-
Both levels	3.5	-9.5	-1.2	11.1
1950-60				
Provincial	4.4	-9.4	2.6	-
Federal	17.6	40.0	25.0	-
Both levels	13.6	32.0	19.7	8.2
1960-70				
Provincial	11.7	30.1	13.9	-
Federal	12.7	8.9	10.7	-
Both levels	12.6	9.5	11.0	8.0
1970-80				
Provincial	16.1	16.3	20.5	-
Federal	9.7	18.1	14.4	-
Both levels	11.0	18.0	14.6	12.6

1 Annual compounded growth rates.
SOURCE Estimates by the Economic Council of Canada based on the Public Accounts of Canada and of the provinces.

ance to the private sector. Housing finance programs multiplied during the 1950s, and housing loans and guarantees accounted for the largest share of direct government involvement in financial intermediation by 1960. The 1950s and 1960s were also marked by a greater involvement of the federal and provincial governments in business finance. At the same time, government export credit insurance, introduced in 1944, also increased rapidly.

All this led to rapid growth in government credit and credit guarantee programs in the last three decades. In fact, since 1949, government assistance to the private sector through financial instruments has grown faster than the gross national product and, until 1969, faster than the money supply. The fastest growth relative to GNP was registered during the 1950s, as the ratio of government assistance outstanding to GNP increased from slightly more than 4 per cent in 1950 to almost 12 per cent in 1960. The difference between the growth rates of these two aggregates narrowed quite substantially over the last decade as governments were faced with budget constraints. Although the federal government provided the bulk of all official credit and credit guarantees – namely 95 per cent of all guarantees and credit insurance in force and 74 per cent of outstanding loans and investments as of March 31, 1980 – the assistance provided by the provinces between 1960 and 1980 grew at a faster rate.[5]

Objectives

Government intervention in the economy generally has three major objectives: economic stabilization, income redistribution and social progress, and resource allocation. In the pursuit of the first goal, government attempts to promote as strong a growth of output and employment as is consistent with the maintenance of reasonable price stability and an acceptable balance of payments position. In the second case, government aims at achieving a more equitable personal and regional distribution of society's wealth. Finally, government works to reach the third objective by allocating the existing resources in the economy to their best possible utilization from a social point of view over the short term; over the longer term, it seeks to increase the total stock of resources available to promote economic growth and social progress. In practice, of course, these objectives are interrelated, and government often pursues all three simultaneously with the same instruments.

In working towards these objectives, government can play either a corrective or a stimulative role – the first being designed to overcome the market imperfections that hinder the achievement of its economic objectives, and the second, to bring about certain fundamental changes in the way the economy operates.

When government has intervened in financial markets as an intermediary, the corrective role has usually taken a back seat. It would appear that government intervention has almost always been aimed at achieving economic and social objectives that went well beyond the scope of financial markets. Government assisted in the construction of the transcontinental railway because it was considered an important instrument for stimulating political and economic development. The provinces' entry into the field of business finance and the federal government's return to this field after the Second World War were both motivated by a desire to encourage Canada's economic and social development and to restructure the industrial sector, with a view to promoting growth in output and job creation.

When the federal government has intervened in a specifically corrective role, it has always been in pursuit of the broader objectives of promoting the restructuring of industry and fostering economic and social development. While the immediate goal of government involvement in farm finance was to respond to the concerns of farmers faced with financing problems, particularly in the outlying regions, the government also had in mind the much broader objective of contributing to the development of a healthy farm sector – one that could feed Canada's growing population and yet avoid excessive increases in food prices. Government entered the field of housing finance to stimulate construction and to assist low-income families at the same time. Finally, government was led to intervene in export finance by a desire to promote and diversify Canadian exports, both to facilitate industrial development and to strengthen Canada's international balance of payments.

Sectoral Aspects

These examples show that government financial intermediation has always been aimed at assisting specific sectors of the economy. For our purposes here, these activities have been grouped according to the seven major sectors that are assisted: agriculture, fisheries, natural resources, housing, exports, business, and "other" – primarily students and native peoples. While the distribution of government financial assistance programs among economic sectors appears clear and precise in theory, in practice it is more difficult to break down the amounts of loans, investments, and guarantees by sector. A recipient may very well obtain assistance from several programs aimed at different sectors. For example, an

Table 1-4

Distribution of Government Assistance to the Private Sector through Financial Instruments, by Sector, Canada, Selected Years, 1930-80

	1930	1939	1950	1960	1970	1980
			(Per cent)			
Business	80.9	65.6	38.9	8.7	10.5	13.6
Exports	-	-	1.8	2.3	4.4	11.1
Housing	1.3	1.4	16.3	75.0	62.5	60.0
Agriculture	17.3	32.3	42.0	12.2	17.6	10.9
Sub-total	99.5	99.2	99.0	98.2	95.0	95.6
Fisheries	-	--	0.3	0.4	0.3	0.4
Natural resources	--	--	--	0.2	0.2	1.1
Other	0.5	0.8	0.7	1.2	4.5	2.9
Total	100.0	100.0	100.0	100.0	100.0	100.0
			($ Millions)			
	807	820	717	4,334	12,347	48,430

SOURCE Estimates by the Economic Council of Canada based on the Public Accounts of Canada and of the provinces.

industrialist may obtain financing from a program of assistance to the business sector, from another program aimed at encouraging exports, and (if applicable) from a program assisting the natural resources sector. Conversely, a given program or agency may provide assistance to several sectors at the same time. While the Export Development Corporation's sole function is to promote the development of exports, the Ontario Development Corporation and the Société de développement industriel du Québec also provide particular assistance to exporters, even though their main objective is to promote business expansion. It is also difficult to ensure that the funds have actually been used to finance the activities designated by the government. Indeed, funds provided by government for a specific purpose may release for other uses the client's own funds or funds borrowed from other sources.

The division by sector is, therefore, in accordance with administrative, rather than economic, lines, following a division based on the departments or agencies responsible for granting this financial assistance. This, in turn, reflects the government's perception of the existence of different sectoral problems. This classification is of interest, since the emphasis on one sector over another varies by level of government and over time, and these shifts cannot be ignored.

In 1980, housing received the largest share of total assistance provided by government in the form of loans, investments, guarantees, and insurance (Table 1-4), far more than the business, export, and agriculture sectors. The four sectors together received close to 96 per cent of government assistance granted in this form. If loans and investments are separated from guarantees, each sector's relative importance changes somewhat. For guarantees, housing tops the list (receiving 83 per cent of the total amount outstanding), followed by exports (8 per cent), agriculture (3 per cent), and business (2 per cent). The business sector led in loans and investments (32 per cent of the total amount outstanding), followed by housing (24 per cent), agriculture (23 per cent), and exports (17 per cent).

Each sector was treated differently by the two levels of government. The federal government was the primary source of public assistance to the export, housing, business, and agriculture sectors, while assistance to fisheries and natural resources would appear to be provided largely by the provinces (Table 1-5).

In loans and investments, the federal government appeared to favour business, agriculture, and exports, in that order, while the provinces favoured business, housing, and agriculture. The major share (87 per cent) of federal guarantees and insurance outstanding went to the housing sector, with exports a very distant second; at the provincial level, agriculture led, having received almost half of all guarantees and insurance in force, followed by business and by the "other" sector, which was dominated by student loan guarantees.

The evolution of all public assistance to the various sectors since 1960 strongly reflects the changing

Table 1-5

Federal Share of Government Assistance to the Private Sector through Financial Instruments, by Sector, Canada, 1980

	Loans and investments	Loan guarantees and credit insurance	All instruments
	(Per cent)		
Business	70.5	53.0	68.9
Exports	100.0	100.0	100.0
Housing	62.3	99.8	93.8
Agriculture	81.2	18.8	70.3
Fisheries	1.0	91.2	9.6
Natural resources	1.8	25.3	5.4
Other	78.5	66.6	68.6
All sectors	73.6	94.9	86.5

SOURCE Estimates by the Economic Council of Canada based on the Public Accounts of Canada and of the provinces.

priorities of the federal government. When it is broken down by level of government, however, a different picture emerges. At the provincial level, agriculture stood firmly in the lead, particularly for loans, followed by the business and housing sectors. While the share of assistance to agriculture subsequently eroded at the provincial level, it grew at the federal level. The business sector's relative share of provincial assistance increased from 1960 to 1970, after which it declined as well, while the relative importance of housing rose sharply, particularly for loans. It would thus appear that the provinces tended to move into the fields being vacated by the federal government. Generally, from 1960 to 1980, the provincial share of total financing declined in the agriculture sector (guarantees increased, but loans dropped off sharply), fluctuated in the business sector, and rose in the housing sector.

The assistance provided through government instruments shows a different distribution among the provinces, depending on the economic sector (see Appendix B). Businesses in Quebec, Ontario, and British Columbia were the primary recipients of total government assistance to this sector, with 33, 19 and 15 per cent, respectively, of the amount outstanding on March 31, 1979. When the financing received is compared with the contribution of each province to gross domestic product (GDP), it appears that assistance to businesses in Ontario was less than proportional to contribution to economic activity, while businesses in Quebec, British Columbia, and the Maritimes appear to have received proportionately more than these provinces contributed to Canada's economy. Farmers in Saskatchewan, Alberta, Quebec, and Ontario share agricultural assistance almost equally, whereas Ontario residents receive almost half of all housing assistance. Despite these differences, the provincial distribution of total assistance to these three sectors is fairly close to the provincial contribution to the national GDP.

Procedures

For each sector, public assistance granted through loans, investments, guarantees, and credit insurance is provided through various institutional channels. The first institutional division makes the distinction between assistance granted on an ad hoc basis and that falling under programs.

Assistance provided through programs is usually intended to solve problems shared by a number of individuals or firms. Loans from the Federal Business Development Bank or the Farm Credit Corporation, insurance under the Small Business Loans Act, and credit insurance provided by the Export Development Corporation are examples of this form of financial aid. Ad hoc assistance, on the other hand, cannot form part of a general government approach. In such cases, each loan, investment, or guarantee meets a specific need at a specific moment, in response to a demand for which better solutions seem hard to find. Recent assistance to the Chrysler Corporation of Canada and Massey Ferguson falls into this category.

On March 31, 1980, 95 per cent of all loans and investments and almost all guarantees outstanding were provided through programs (Table 1-6). As for ad hoc assistance, while it is just as much a part of government financial intermediation as program aid, it is much harder to analyse. Very little information can be obtained on this specific government activity. At best, we may know the name of the recipient and the amount granted. In view of the small proportion of ad hoc assistance, however, our conclusions in this report are probably not affected significantly by the exclusion of these loans and guarantees.

Program assistance is delivered by government departments or by agencies (such as Crown corporations or government boards) especially established for this purpose.[6] As of March 31, 1980, some 42 agencies and boards offered financial assistance to the four major sectors studied here: business exports, housing, and agriculture. When three other agencies that are no longer active as lenders are included, their loans and investments outstanding amounted to $17.5 billion, and their guarantees and insurance amounted to $27.5 billion. In 1981, four Crown corporations ranked among the 30 largest financial institutions in Canada; the Canada Mortgage and Housing Corporation ranked among the 10 largest.

Table 1-6

Distribution of Government Assistance to the Private Sector through Financial Instruments, Provided through Programs and on an Ad Hoc Basis, by Sector, Canada, 1980

	Loans and investments				Loan guarantees and credit insurance			
	Programs	Ad hoc	Total	Amount	Programs	Ad hoc	Total	Amount
		(Per cent)		($ Millions)		(Per cent)		($ Millions)
Business	94.0	6.0	100.0	6,037	93.8	6.2	100.0	577
Exports	100.0	-	100.0	3,141	100.0	-	100.0	2,213
Housing	100.0	-	100.0	4,666	100.0	-	100.0	24,398
Agriculture	100.0	-	100.0	4,355	100.0	-	100.0	924
Fisheries	89.3	10.7	100.0	155	100.0	-	100.0	16
Natural resources	16.6	83.4	100.0	467	28.9	71.1	100.0	85
Other	9.9	90.1	100.0	244	96.2	3.8	100.0	1,152
All sectors	94.8	5.2	100.0	19,065	99.5	0.5	100.0	29,365

SOURCE Estimates by the Economic Council of Canada based on the Public Accounts of Canada and of the provinces.

The number of Crown corporations and government boards with primary responsibility for the four sectors has grown steadily over the last 25 years, from 17 in 1960 to 42 in 1980. Despite this increase, the growth rate for total assistance to the private sector has fallen off in the last few years. While this decline may to some extent be attributed to the budget restrictions facing governments in recent years, the increase in the number of financing agencies demonstrates that the determination to participate in private-sector financing has not diminished.

Impact

This determination to participate in private-sector financing is reflected in the proportion of the public debt attributable to the financing that these governments have accorded to the four sectors. For example, about one-fourth of the federal government's long-term debt outstanding (as of March 31, 1980[1]), 57 per cent of that of the government of Alberta, and 42 per cent of that of the government of British Columbia were attributable to the financing that these governments have accorded to the four sectors through their lending agencies (Table 1-7).

From the perspective of the sectors themselves, government is a major source of financing. In agriculture, it accounts for almost 30 per cent of total credit outstanding and 58 per cent of long-term loans. In the field of exports, government is not only a major money lender but is also the only supplier of some forms of credit insurance. While it is the sixth largest institution providing residential mortgages, it shares the mortgage insurance market equally with the private sector as a whole. Finally, government is the fourth largest institution involved in business financing, although it holds only 4.3 per cent of the outstanding credit.

Government loans, investments, and guarantees therefore represent a major and diversified intervention in the financial markets. The amounts involved represent a substantial proportion of the savings of Canadians – savings that are directed to uses for which they might not have been employed otherwise or in which they might have been employed to a

Table 1-7

Share[1] of Government Debt Outstanding Attributable to Selected Government Financial Institutions[2], by Government, Canada, 1980

	Total outstanding debt	Institutions' share
	($ Millions)	(Per cent)
Newfoundland	1,580	11.1
Prince Edward Island	141	31.0
Nova Scotia	1,396	25.3
New Brunswick	1,076	6.2
Quebec	8,015	7.3
Ontario	18,978	8.4
Manitoba	2,159	8.1
Saskatchewan	2,030	15.7
Alberta	1,841	57.0
British Columbia	235	42.4
Federal government	71,711	24.7

1 Calculated as the ratio of financial institution debt and equity outstanding to government debt outstanding plus public financial institutions borrowing from the private sector.

2 Institutions lending to the business, export, housing, and agriculture sectors.

SOURCE Estimates by the Economic Council of Canada based on the Public Accounts of Canada and of the provinces.

lesser extent. This intervention, which forms part of government's general policy framework, has an effect on the allocation of financial resources and thus on that of real resources – and ultimately on economic development and social progress.

Moreover, many of the programs and agencies have been in place for several decades, as this form of government intervention began about three-quarters of a century ago. Governments have employed financial instruments in response to the needs that had been identified when the agencies and programs were set up, be it the need to supplement the market when it failed to work properly or a desire to contribute to economic growth and better living conditions. It has become necessary, therefore, to reassess government participation in the intermediation of monies and risks to determine if it is appropriate to today's economic and social conditions.

The activities of governments as suppliers of funds have received little attention until now, however, despite the extent of their presence in financial markets. Few analyses have been conducted of their overall financial intermediation function.[7] Most of the studies deal with specific agencies or programs and fail to give an overview of the government role in financial intermediation in Canada.

Scope of the Report

Government intervention in financial markets covers a very broad spectrum. In this report, we focus on those measures aimed at assisting the private sector through financial instruments – loans, investments, guarantees, and credit insurance. Since guarantees and credit insurance differ only in their use, our analysis will make no distinction between the two. We shall study the business, agriculture, housing, and export sectors, which account for 96 per cent of all assistance delivered through these four instruments.

The first difficulty in analysing this intermediation process lies in the choice of an appropriate methodological approach. Most economists who have studied this issue have dealt with government in the same way as with private financial intermediaries: they have drawn up a balance sheet of government financial intermediaries, indicating the source and use of funds.

The impact of government financial intermediation cannot, however, be determined in the same way as that of private financial institutions. First, government has its own objectives, which are usually quite different from the private profit motive. In addition, since government activities in most cases involve some degree of subsidy, their impact on the allocation of financial and real resources differs considerably from that of private financial institution activities. Public financial intermediation must therefore be analysed in terms of the stated objectives of government, in an attempt to determine to what extent they have been achieved and whether they have been realized at the lowest possible cost and with the least possible distortion of the economy. The choice of financial instrument must be analysed in terms of government objectives in order to determine its suitability and its consequences, as well as the alternatives that might be used.

Chapters 3 through 6 discuss these questions as they relate to the assistance provided through loans, investments, and guarantees to the business, export, housing, and agriculture sectors, respectively. The analysis in these chapters focuses on structural changes in the markets that provide funds to each of these sectors and on the government presence in these markets from medium- and long-term perspectives. Recent economic developments and the accompanying upsurge of interest rates have caused serious financing difficulties for many businessmen, homeowners, and farmers. This rapid rise has highlighted problems of a structural nature and the urgent need for solutions. On the other hand, these four chapters do not offer an assessment of any individual agency or program. Rather, the analysis focuses on the role played by government financial intermediation as a whole and on the choice of financial instruments in the implementation of government economic and social policies.

Chapter 7 examines the modus operandi of this form of government intervention and analyses the mechanisms set up to ensure the achievement of government objectives at a minimum cost. Finally, Chapter 8 places the sectoral assistance into the more general context of government's presence in financial markets. This is an important step, as assistance to one sector is not given in a vacuum and has a definite effect on the other sectors of economic activity. In order to carry out such a study, however, it is first essential to establish a framework for analysis. Such a framework is outlined in the following chapter.

2 The Governments' Choices

Once government has decided to intervene to achieve its economic and social objectives, it has several options. If financial markets fail to perform in a satisfactory manner, thus impeding the achievement of these goals, it is generally recognized that government should intervene in these markets. On the other hand, if financial markets are operating reasonably well, government should focus its efforts on other markets. Legal, institutional, social, or political constraints may, however, lead to government intervention in financial markets as an indirect but expedient way to solve problems that arise elsewhere. In other words, intervention through financial channels is justified if the net benefits of such action are greater than those likely to result from any other form of intervention in other markets. The government's decision either to provide a loan, guarantee, or credit insurance, or to take equity participation is, therefore, the result of a two-step selection process: first, choosing financial markets as the *scene* for action and, second, choosing a specific financial instrument as the tool for intervention.

The Choice of the Market of Intervention

There are four major elements of market failure that may warrant government intervention in financial markets: obstacles to the proper internal functioning of the financial markets themselves, externalities, public goods, and uninsurable risks. The existence of any one of these can hinder the efficient allocation of financial resources and may thus prevent society from achieving the desired economic and social equilibrium. To these "internal" motives for intervention may be added a fifth: problems arising in other markets, which might best be resolved through measures taken in financial markets.

Obstacles

There are several types of impediments to the proper functioning of financial markets, whether resulting from government regulation, the tax system, the lack of competition, the policies of the financial institutions, or deficiencies in information gathering.

The rules imposed on private financial institutions, such as those covering the composition of assets, liability structure, or borrowing power, may cause distortions in the financial-resource allocation process. For example, prior to the 1954 and 1967 amendments to the Bank Act, chartered banks did not have free access to the mortgage market; consequently, the supply of funds for the purchase or construction of homes was limited. Today, regulations designed to protect contributors to pension and life insurance plans may restrict the amount of funds available to some firms, because they limit the unsecured investments that life insurance companies and pension funds can make.

Taxation may alter the allocation of financial resources by changing the relative prices of various financial assets. For example, the difference between the treatment of interest expenses and the cost of shareholders' equity may lead businessmen to favour debt finance.

The lack of competition between private financial institutions can reduce the supply of financing and increase its price, compared with what would result in a more competitive environment.

Financial institutions themselves may cause distortions in the allocation of financial resources through self-imposed ceilings on the interest rates that they charge their customers. Such a policy, sometimes called "implicit regulation," may stem from fears of unfavourable public and/or government reaction to interest rate increases. A case in point is the rate set by the chartered banks and other financial institutions on their loans to farmers during the 1920s and 1930s, which was deemed to be below the minimum necessary to compensate for the risks involved. Moreover, as there are practical limits on the extent to which they can assign different interest rates based on risk, financial institutions prefer not to charge unduly high interest rates that would drive away relatively low-risk borrowers. Otherwise, their

portfolio of loans and investments would contain too many high-risk assets and too few financing contracts for more secure projects. Such an imbalance can result from what is known as "adverse selection."[1]

Finally, the high costs and other barriers involved in the collection of information may lead private institutions to grant or refuse applications for financing on the basis of inadequate information.[2] For example, if it were comparatively expensive to investigate a prospective borrower operating in a specific sector of the economy or located in a remote rural area, a chartered bank or trust company might hesitate to undertake such an investigation, unless it anticipated additional requests for financing from borrowers with the same characteristics, which would offset part of the cost of the initial investigation. While such a response in these circumstances would not be necessarily unreasonable, a market failure could be considered to result if the institution rejected the application outright, without extending to the prospective borrower the opportunity of absorbing the additional costs involved in assessing its loan application.

These five factors can lead to what is often called a "credit gap." Although several authors have attempted to define and analyse this concept, it is still difficult to delineate, and there is no unanimity on its definition. Generally speaking, a credit gap is characterized by a differentiated shortage of financial capital caused by market imperfections – that is, a shortage that affects differently those participants in the economy who face similar risks and expected returns. Thus, there exists a credit gap if two projects having the same characteristics in terms of anticipated benefits and probability of success are not treated in the same way by financial institutions.

A credit gap affects not only the quantity of funds available but also other characteristics of financing, such as the interest rate charged, the collateral required, or the term to maturity. Thus, the presence of barriers to the collection of reliable information may cause financial institutions to improperly assess some customers – such as homeowners in small communities, small businesses, or businesses operating in remote areas – and to demand interest rates or collateral that are out of line with their risk-and-return combination. A credit gap can also occur in the supply of a particular form of financing to some firms or individuals. For example, regulations designed to protect the savings entrusted to life insurance companies and to pension funds may restrict the participation of these financial institutions in the provision of equity to small and medium-sized firms – a secondary effect not sought by government.

Externalities

The presence of externalities may be the source of another form of market imperfection. Externalities result when market forces are unable to take into account some important benefits or costs of a project.[3] These benefits and costs do not directly affect the project's initiator, but they do affect society as a whole. For example, a laundry whose wash is soiled by smoke belching from a nearby factory incurs additional costs because of an external factor beyond its control – costs that it is unable to recover in the normal course of business from the factory owner and consequently passes on to its own customers.

Under such circumstances, output and consumption may not be at their socially optimum levels, since external costs and benefits are not taken into account. Government may then intervene to ensure that the socially desirable levels of output or consumption are achieved. It may modify the private costs and benefits by means of financial instruments, capital grants, or tax incentives, or it may become directly involved in the production of the goods in question. It must be mentioned, however, that few externalities are directly generated in financial markets, apart from those associated with the introduction of new instruments or the development of markets dealing in existing instruments.

The introduction of a new instrument may prove profitable for society as a whole when it increases financial opportunities or market efficiency. Since a new instrument can be used by a large number of firms, the innovating institution cannot reap all of the benefits of its innovation and may even be unable to retain enough to cover its development and innovation costs. Naturally, this could delay the process of innovation in financial markets. This problem is similar to that encountered by research and development activities in other sectors of the economy. It may, however, be more acute in the financial sector, since it is not possible to patent a new financial instrument. This may explain, for example, why government has played a role in the introduction of new mortgage instruments.

The creation and development of financial markets is, in itself, a source of externalities. The expansion of financial markets in which securities are traded increases the liquidity of these securities, which benefits not only present investors and borrowers but potential ones as well.

Public Goods

The existence of what economists call "public goods" can be another cause of market failure.

These are goods to which the principle of exclusion does not apply – that is, goods (such as national defence and justice) whose consumption by one person does not rule out their consumption by another. Consequently, most people would rather be silent about their preferences, as they hope to enjoy the good, once others have paid for it. Because the free play of market forces may not set the output of a public good at its desired level, government may properly seek to raise it.

Information, as both the primary input and a major output of a financial institution, is a good over which it is difficult to establish ownership. A firm gathering and analysing financial information about a customer automatically divulges the essence of that information when it announces that a proposed transaction appears to be profitable. It cannot prevent other economic agents from using at least part of the results of its work, and it thus runs the risk of not earning enough to recoup the costs of collecting and analysing the information. The practice of private financial institutions to request from loan applicants an established credit record illustrates this public-good characteristic of information. Unless private financial institutions can obtain full compensation for the cost of collecting and analysing information, they will not produce an optimal amount of it.

Uninsurable Risks

A final potential source of financial market failure is the existence of uninsurable risks – that is, risks that cannot be lowered by portfolio diversification and therefore cannot be insured, no matter how high the premium. If government decides that ventures giving rise to such risks can generate social benefits, it can intervene to spread these risks over society as a whole. Government does not provide insurance against these risks, but rather it spreads the burden over a greater number of participants.

Since risk intermediation is conducted in financial markets, this is the proper arena for government intervention. The coverage of risks associated with export credits is but one example.

Problems in Other Markets

Government sometimes intervenes in financial markets even when they are functioning properly. For instance, in pursuing the objective of economic stabilization, it may choose to act through financial markets to influence particular components of aggregate demand, such as housing construction or exports. The existence of a well-established network for providing public loans and guarantees may play an important role in this decision.

But will the increased supply of funding available to both sectors allow them, in the absence of imperfections in financial market operations, to augment their level of activity? Will the intervention have the desired effect on the economy as a whole, taking into account the effects of government borrowing or taxation to finance this activity? Finally, are loans and investments suitable counter-cyclical instruments? Such questions, which have no *a priori* answers, are the subject of empirical analysis in the chapters that follow.

Government may also intervene in financial markets to implement its income redistribution policies. The subsidized loans issued to some farmers, homeowners, and builders of low-rent housing are examples. Income can be redistributed in two ways: directly through taxation and transfer payments, or indirectly through a reduction in the price of goods consumed by certain groups, so that their consumption may increase for a given level of monetary income. In the latter case, the price reduction has the same effect as an increase in income, but the success of such a policy obviously requires an induced increase in consumption. On the other hand, the effectiveness of the policy may be reduced if an artificial price cut results in excessive consumption of the good involved. The merit of such intervention cannot be established without recourse to empirical analysis.

Finally, government may intervene in financial markets when externalities are generated in other markets. An investment project may not be profitable for a private firm at market interest rates, but it may be socially desirable if one takes account of external benefits, such as regional development or industrial restructuring. Government may then assume part of the private financing cost or offer financing at a reduced rate. Measures taken to increase the stock of quality housing through financial instruments provide another example of this type of intervention. As it is an unfavourable comparison of private rates of return with market interest rates which has prevented a project from going ahead and prompted government to intervene, the latter's presence in financial markets may be warranted.

The Choice of Financial Instruments

When government intervention in financial markets is justified, care must still be taken to choose the proper instrument. The first basic principle is to choose an instrument that will strike at the root of the problem that prompted the intervention. If the tax system or government regulation is the cause of some deficiencies in market operation, then an attempt should first be made to modify the offending

tax laws or regulations. However, such action could have other undesirable effects, or the cause of the problem might be difficult to pinpoint precisely. Other criteria should then be used to choose between policy instruments.

Public policy instruments can be divided in two ways: according to whether they apply to the market as a whole or to firms and individuals singly, and according to whether or not they carry a subsidy.

Instruments Specific to a Firm or Individual[4]

Loans, investments, and guarantees are instruments specific to a firm or individual, whereas customs duties, taxes, and regulations are market-specific instruments that affect equally all individuals or firms engaged in a given economic activity. The use of instruments specific to firms or individuals obviously permits the direction of assistance to those who truly need it. However, the potential recipients of assistance must be identified accurately, in order to avoid missing the target and thus wasting the limited financial resources. This is possible only if the recipients have characteristics that set them apart from those who do not require assistance and if the information needed to make this identification is available. With market-specific instruments like taxation or tax incentives, the risks of missing the target are relatively small, since all members of the group are affected by this intervention. On the other hand, one cannot prevent members of the group who do not require assistance from benefiting along with those who do.

There is also an element of subjectivity involved in the administration of instruments specific to a firm or individual. It is left up to the administrators responsible for implementing such programs to select, within a general legislative or regulatory framework, the candidates for assistance. Thus the choice between a market-specific and a firm- or individual-specific instrument depends upon finding a compromise between several risks: granting windfall gains, missing the target, or introducing a subjective element into the approval procedure.

Subsidies and Subsidized Instruments

A subsidy is intended to modify the behaviour of participants in economic activities. In cases where external factors are at play, a government subsidy may induce the participants in financial markets to conduct their business differently than they would in the absence of government assistance. If the underlying objective is income redistribution, a subsidy may help to bring about lower prices for certain consumer goods, for example, as well as increase the real income of the recipient.

On the other hand, if government wishes to intervene to close a credit gap, no subsidy is required. In this case, it may offer the firm or individual that is adversely affected a financing arrangement whereby the interest rate, maturity, and collateral are adjusted to the risk-return characteristics of the borrower. Thus the interest rate set by the government should generally be equal to the prevailing market rate. It may be lower if the market is not competitive and the going rate reflects this; on the other hand, it may be higher if the credit gap is the result of interest rate ceilings self-imposed by institutions choosing to reject certain loan applications rather than charge the high interest rate warranted by the risk-return characteristics of a particular borrower. Although loan subsidies are inappropriate in this case, a subsidy to a gap-filling agency or program that holds a small portfolio may be needed to compensate it for the higher portfolio risk that is caused by a lack of diversification.[5]

A subsidy can be provided in many ways: conditional lump-sum payments; loans, investments, and loan guarantees; regulations that depress the cost of certain financial assets; tax incentives; and so on. Because capital grants and subsidized loans are instruments specific to the recipients, they should be used only when a subsidy is necessary and when the use of an instrument specific to the recipient is warranted.

The Choice of a Particular Instrument

From the preceding analysis, it follows that financial instruments should only be used when government intervention in financial markets is preferable to action in any other market and when circumstances call for an instrument specific to the recipient.

It is harder to develop general principles for choosing a particular financial instrument. The choice depends on many factors, such as the presence and nature of market imperfections; the recipient's characteristics; and, of course, the objectives pursued.

For example, limited equity participation in a firm should be the preferred instrument for assistance to a business when the firm's debt/equity ratio is fairly high. When regulation creates a credit gap, a guarantee may be the preferred instrument if it enables some institutions to invest in otherwise unqualified securities. For example, from 1954 to 1967 chartered banks were able to make mortgage loans only if they qualified for, and received, a federal government guarantee under the National Housing Act. Finally, a

guarantee should also be used when there is an uninsurable risk worth accepting. In this case, the private sector provides the financing, but society as a whole bears the risk.

Other factors, however, explain the recent increase in the government use of guarantees. Besides costing the government less than a loan or investment, a guarantee also involves less interference with the private sector. It must be remembered, however, that a guarantee diverts financial resources in much the same way that a government loan or investment directs funds to uses other than those chosen by the private sector.

But a guarantee does not enable government to control the use of funds in pursuit of its objectives as strictly as it can by a more direct financial involvement. After all, it is the responsibility of the private institution providing the government-insured funds to monitor the borrower's activities. Moreover, the selection of recipients is, in many instances, left to the private sector. Loans insured under the Small Business Loans Act or the National Housing Act are cases in point.

Furthermore, government bears a high moral risk when it provides guarantees, especially if they cover almost the entire loan, because the lending institution may then be less inclined to exercise caution. Therefore, despite their appeal, guarantees must be used with care. They may be used when they alter the nature of a financial instrument with respect to the regulation in force or when uninsurable risks are present. They may also be used temporarily when the unfamiliarity of financial institutions with some borrowers or financial instruments leads to a credit gap. Extending guarantees gives the institution time to acquire the necessary information. In all other cases where government assistance is required and the use of financial instruments is warranted, loans or investments are preferable.[6]

When a subsidy is appropriate, government can choose between a capital grant or a financial instrument that incorporates an element of subsidization. A loan incorporates a subsidy when the interest rate set by the government is not high enough to cover all of its costs. A guarantee or insurance, in turn, is subsidized if the premiums charged do not cover all of the costs, including the risks of default. Finally, a purchase of shares confers a subsidy if the price paid by government is higher than the market value of the shares.

Regardless of the instrument chosen, government must determine the amount of the subsidy in relation to the difference between the net social and private benefits. In practice, only an approximation of this difference can be made. The subsidy should not exceed this estimated difference, otherwise the costs of intervention would outweigh the expected benefits. For the same amount of subsidy, government has no particular reason to choose between a loan, a guarantee, or a direct capital grant as the vehicle for the subsidy. If financial markets perform smoothly, the recipient should also have no preference for either of these forms of assistance. In practice, however, constraints on the maximum amount of the loan to be granted and the difficulty in accurately determining the amount of the subsidy actually incorporated in a loan or guarantee may tip the balance in favour of a capital grant.[7]

The Cost of Intervention

All things considered, the choice of instrument depends on the interaction between the government's objectives and the characteristics of the market. Within the overall analytical framework just outlined, the validity of the choice can only be determined empirically. This heightens the importance of exercising caution. Choosing the wrong instrument could reduce the benefits expected and would not compensate for the costs of intervention. These costs can take several forms.

Intervention in financial markets may make it more difficult to achieve other government objectives. In order to improve resource allocation, for instance, government may wish to use financial instruments to shelter certain groups from the adverse effects of stabilization policies. This applies, for example, to government measures designed to protect small and medium-sized businesses, farmers, and homeowners from the high interest rates caused by restrictive policies. In providing this protection, however, the government diminishes the impact of the higher interest rates on the economy.

Moreover, measurement problems often make it impossible to accurately determine the degree of government intervention required. Economists have argued that the costs of half-measures or excessive measures can often be greater than the loss that results from doing nothing at all.[8]

Finally, government intervention is frequently, if not always, accompanied by the establishment of a bureaucratic apparatus in charge of administering this process. In their implementation of the various programs, administrators at times interpret vague government objectives rather broadly, and this can lead them to increase the relative size of their operation.

The conclusion to be drawn from all of this is that government must proceed carefully. The validity of

the recourse to loans, investments, and guarantees depends on the specific characteristics of the economic sectors with which the government is dealing. For this reason, our assessment of government loan and guarantee programs is, to a large extent, based on a sectoral analysis, to which we now turn.

3 Business Assistance

Industrial and commercial businesses contribute importantly to Canada's economic growth and represent a major source of jobs and income for Canadians. They are instrumental in achieving the country's major economic and social objectives, which explains the keen interest shown by all levels of government in their financial health. When necessary, governments participate actively in business finance through loans, investments, and loan guarantees. Government assistance to large corporations (Canadian Pacific, at the end of the last century; Michelin, or companies aided under the Enterprise Development Program, more recently) forms an integral part of policies aimed at promoting the balanced growth of regions or at protecting endangered jobs. While assistance to small and medium-sized firms is aimed at promoting job creation, it is also intended to ensure the development of tomorrow's large firms and, at the same time, to maintain a certain form of organization of the production process. In this context, government has intervened specifically to fill the credit gaps in business finance – some of which it has created itself, and more generally to promote economic and social development.

In its first role, government has been lending to business for many years to offset an inadequate supply of term loans. As we show in this chapter, however, this situation has changed over the last ten years, as gaps in term lending have given way to problems of equity financing, particularly for small and medium-sized firms. Government must therefore devise new solutions in response to this change.

In its second role, government seeks to encourage projects that the private sector does not consider financially viable but that may benefit society as a whole. The analysis shows, however, that the use of financial instruments to promote this goal has not always met with success. When there are no imperfections in capital markets, use of these instruments is often not appropriate to the pursuit of economic and social development objectives.

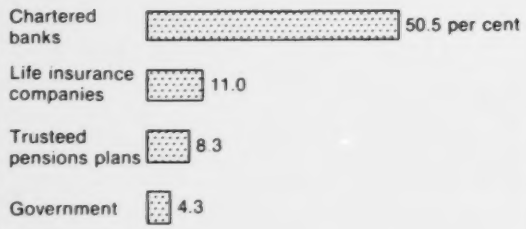
In the following pages, we shall analyse, in the context of these two broad objectives, the federal and provincial programs and agencies that offer financial assistance to business, after having first briefly reviewed their history, described the objectives, and examined the functioning of the markets for business finance.

The Place of Government in Business Finance

On March 31, 1980, there were 28 agencies, boards, and departmental divisions at the federal and provincial levels whose primary activity was to provide business loans, investments, and loan guarantees (Table 3-1). Total loans and investments outstanding amounted to almost $6.0 billion; and guarantees, to $577 million. Almost all of this assistance was provided through programs, with ad hoc intervention to deal with specific cases representing less than 7 per cent of the total.

Chart 3-1

Shares of Government and Selected Groups of Private Institutions in the Supply of Loans and Investments to Businesses, Canada, 1980



SOURCE Estimates by the Economic Council of Canada based on data from the Public Accounts of Canada and of the provinces, and from Statistics Canada.

Table 3-1

Major Government Agencies and Programs Providing Loans, Investments, and Loan Guarantees to the Business Sector, Canada, 1980[1]

	Government	Status[2]	Date of creation	Assistance outstanding			Assets
				Loans	Investments	Loan guarantees	
				($ Thousands)			
Federal Business Development Bank (FBDB)	Federal[3]	A	1974	2,025,699	22,882	19,392	2,001,309
Canada Development Corporation (CDC)	Federal	A	1971	–	2,033,517	–	2,767,945
Canada Film Development Corporation (CFDC)	Federal	A	1967	1,390	866	–	3,712
Cape Breton Development Corporation (Industrial Development Section)	Federal	A	1967	3,454	–	18,000	20,657
Small Businesses Loans Act (SBLA)	Federal	P	1962	–	–	88,397	. . .
Enterprise Development Program (EDP)	Federal	P	1977	14,859	–	169,069	. . .
Defence Industry Productivity Program (DIPP)	Federal	P	1959	27,181	–	–	. . .
Department of Regional Economic Expansion (DREE)	Federal	P	1969	–	–	10,712	. . .
Newfoundland and Labrador Development Corporation (NLDC)	Federal and Newfoundland	A	1972	15,338	841	–	21,789
Newfoundland Industrial Development Corporation (NIDC)	Newfoundland	A	1967	14,904	–	–	82,078
Newfoundland Rural Development Authority (NRDA)	Newfoundland	P	1974	8,244e	–	–	. . .
Industrial Enterprises Incorporated (IEI)	Prince Edward Island	A	1966	21,857	–	1,083	23,683
P.E.I. Lending Authority (PEILA)	Prince Edward Island	A	1969	5,937	–	–	16,118
Industrial Estates Limited (IEL)	Nova Scotia	A	1958	107,046	433	810	135,445
Nova Scotia Resources Development Board[4] (NSRDB)	Nova Scotia	B	1970	70,955e	1,775	7,671	151,373e
Provincial Holdings Ltd.	New Brunswick	A	1975	–	3,200e	–	3,200e
Financial Assistance to Industry Program (FAIP)	New Brunswick	P	1976	24,539	–	54,732	. . .
Société de développement industriel (SDI)[5]	Quebec	A	1971	109,032	20,852	124,436	132,196
Société générale de financement (SGF)	Quebec	A	1962	–	605,894	–	693,116
Société québécoise d'initiative agro-alimentaire (SOQUIA)	Quebec	A	1975	–	25,036	900	36,639
Ontario Development Corporation (ODC)	Ontario	A	1966	196,617	–	16,794	226,956
Manitoba Development Corporation (MDC)[6]	Manitoba	A	1970	14,928	9,204	–	31,448
Communities Economic Development Fund (CEDF)	Manitoba	A	1971	2,008	–	–	2,294
Saskatchewan Economic Development Corporation (SEDCO)	Saskatchewan	A	1963	85,701	93	706	101,390
Northern Saskatchewan Economic Development Act (NSEDA)	Saskatchewan	P	1974	7,699	–	300	. . .

Table 3-1 (concl'd)

	Government	Status[2]	Date of creation	Assistance outstanding: Loans	Investments	Loan guarantees	Assets
				($ Thousands)			
Alberta Opportunity Company (AOC)	Alberta	A	1967	102,397	-	672	97,090
B.C. Development Corporation (BCDC)[7]	British Columbia	A	1973	66,982	-	12,875	125,153
Ministry of Economic Development Act	British Columbia	P	1974	27,891	-	45	...
Farm Product Industry Improvement Act (FPIIA)	British Columbia	P	1973	3,752	-	7,294	...

1 Programs for which sufficient information was not available have been excluded.
2 A = agency; P = program and B = Board.
3 The federal government created in 1980 a new program, the Credit Insurance of Junior Companies, designed to assist small and medium-sized firms.
4 Includes the Industrial Expansion Fund and the Industrial Loan Fund.
5 Includes figures of the Opération de solidarité économique (OSE).
6 No longer active as a lender, but still administering important loan and loan guarantee portfolios.
7 Including $15.3 million in loans outstanding under the Low Interest Loan Assistance Program.
SOURCE Estimates by the Economic Council of Canada based on data from the Public Accounts of Canada and of the provinces, and on the annual reports of the agencies.

Compared with the main categories of private sector financial institutions, the government contribution to business finance is fairly modest. With its 4.3 per cent share of the market, government ranks fourth (Chart 3-1). It must be emphasized, however, that its participation dates back more than a century, and its contribution over the past two decades has grown faster than that of the other categories of lenders.

History

Government assistance to businesses through financial instruments dates back to the mid-nineteenth century, when the Canadian government guaranteed the debentures issued to finance railway construction. The intent of the Guarantee Act, passed in 1840 and amended in 1851, was to remedy the lack of private funds in the country and the difficulty in gaining access to London's financial markets.[1] It was not until the 1920s that some provincial governments entered the business finance market. From 1919 to 1937, British Columbia's Industrial Development Fund provided loans and loan guarantees to promote industrial development. New Brunswick also provided loans and loan guarantees under the Assistance to Industry Act of 1936, to foster job creation in the private sector. That same year, Alberta offered guarantees under the Provincial Industries Development Act. In the 1930s, government intervention was more modest than it is today. Tariffs were the preferred instrument of industrial development policies, and the federal and provincial governments were more reluctant to become involved in the conduct of business.

It was only after the Second World War that government intervention through financial instruments assumed its present form. At the federal level, the Industrial Development Bank was established in 1944 (and succeeded in 1974 by the Federal Business Development Bank). The government of the day was preoccupied with restructuring postwar industrial activity and with the reconversion of industry to peacetime activities. The achievement of this objective appeared to be threatened by a shortage of long-term capital, particularly for small and medium-sized firms. In 1961, the federal government introduced the Small Businesses Loans Act – a bank loan guarantee program to provide financial assistance to small businesses – to remedy the shortages of medium-term credit. More recently, two other federal programs have been introduced to encourage the research and development of new technology: the Defence Industry Productivity Program, set up in 1968; and the Entreprise Development Program, in 1977. The latter regrouped a number of existing programs aimed at resolving specific financial problems, such as those of the pharmaceutical products and footwear industries.

The first of the provincial agencies lending to business, as we know them today, was created in 1946. The Alberta Industrial Corporation was established to promote that province's economic growth at a time when it was undergoing some hardship and its population was declining. Provincial agencies have

proliferated ever since, all pursuing the objectives of economic and social development.

Objectives

As agencies, boards, and programs were created or reorganized over the last 35 years, at both the federal and provincial levels, there was no real change in the objectives pursued.[2] The stated goals rarely mention the elimination of credit gaps or of financial market imperfections. The legislation contains only indirect references to these imperfections when it stipulates that assistance be provided "when financing cannot be obtained elsewhere on reasonable conditions" or that the government will attempt not to duplicate private sector services. The enabling legislation of 11 agencies and programs (accounting for about 45 per cent of total assistance outstanding) contains provisions of this type. This has often been interpreted as assigning these agencies and programs "the role of the lender of last resort." Although this term does not itself appear in the acts and regulations, it is often found in the minutes of parliamentary proceedings, in speeches of the ministers responsible, or in the annual reports of the agencies and programs.

The second category of objectives – those dealing with the economy as a whole – is mentioned much more frequently in the enabling legislation and in the most recent annual reports of government agencies: transformation of the industrial structure, job creation, establishment of new industries in a designated province or region, and so on. These objectives are found in the enabling legislation of 19 of the 28 agencies and programs studied, which account for more than 60 per cent of government assistance outstanding granted to the business sector. Thus, under this legislation, businesses are eligible for government assistance primarily because of their potential contribution to Canada's economic and social development – in other words, because of the external effects that may be generated by their activities.

The enabling legislation sometimes refers specifically to the concept of externality. It may state that the activities financed by government assistance must be of considerable benefit to society as a whole. This concern characterizes 13 programs (accounting for more than half of the assistance outstanding). Manitoba's Communities Economic Development Fund Act, for example, states that before granting assistance the Fund's managers must consider the economic and social impact of the sums provided, as well as such aspects as job creation and job displacement, the effects on other businesses in the community, and an assessment of the welfare cost. This program appears to be an exception, however, in that the legislation governing most of the other agencies is generally not so explicit.

Government can, of course, still pursue such objectives without spelling them out in the legislation, by incorporating them implicitly in the directives or regulations applied to financing agencies. One example would be an obligation to assist small and medium-sized firms and new businesses, since this assistance could be justified by both the presence of market imperfections affecting these firms and the social benefits derived from their activities.

Contrary to a widely held view, most government programs and agencies were not specifically created to assist small and medium-sized firms or newly established companies. Only 5 of the 28 programs and agencies (accounting for a small proportion of government loans, investments, and loan guarantees outstanding) place emphasis on small business; and the Small Businesses Loans Act is by far the major one. Five other agencies are explicitly directed at small and medium-sized firms, although this is not their primary concern; the Federal Business Development Bank alone distributed 95 per cent of this assistance.[3] The acts and regulations of the other 18 agencies make no mention at all of small and medium-sized firms. Only one program (representing one-quarter of one per cent of the assistance outstanding), emphasizes the creation of new companies. Seven others, accounting for about one-third of the assistance outstanding, attribute some importance to this objective. The enabling legislation of the remaining agencies and programs makes no mention of it at all.

The Business Finance Market

To proceed with an evaluation of government assistance to business, it is first necessary to analyse the functioning of financial markets and to determine whether there are credit gaps in business finance and, if so, what causes them. Deficiencies in the supply of financial capital can affect two major categories of financial instruments: loans (debt finance); and purchases of capital shares (equity finance).

The former is a contractual agreement whereby the firm sells to the creditor a security whose yield is independent from the firm's income and which it promises to buy back at maturity. Debt finance may take the form of trade credit, a bank line of credit, or a short-term loan, in which case it constitutes a short-term liability. It may also take the form of a mortgage, a term loan obtained from a private or government lender, or a bond or debenture issue, in which case it

Table 3-2

Distribution of Corporate Financing, by Category of Instrument and by Size of Firm Assets, Canada, 1977

	Assets					
	$249,999 and less	$250,000 to $999,999	$1,000,000 to $4,999,999	$5,000,000 to $9,999,999	$10,000,000 to $24,999,999	$25,000,000 and over
	(Per cent)					
Liabilities	58.3	52.0	51.6	46.9	41.2	36.6
Short-term	42.9	38.2	37.5	33.5	28.8	18.7
Long-term	15.4	13.8	14.1	13.4	12.4	17.9
Mortgages	4.4	5.2	4.5	4.0	2.1	0.6
Debentures	0.8	0.9	1.7	1.9	2.2	12.1
Other	10.2	7.7	7.9	7.5	8.1	5.2
Shareholders' equity	41.4	47.2	46.5	50.1	55.3	56.5
Deferred taxes	0.2	0.9	1.9	3.0	3.6	6.9
Total	100.0	100.0	100.0	100.0	100.0	100.0

SOURCE Estimates by the Economic Council of Canada based on unpublished data from Statistics Canada.

constitutes the firm's long-term liability. Shareholder equity can come from internal sources (such as retained earnings) or from external sources (such as share issues or a government grant).

In recent years, the distinction between debt and equity instruments has become somewhat blurred. The persistence of inflation has led to the development of new financing techniques based on instruments that increase both the firm's debt and equity. Convertible bonds, for example, can be exchanged for shares at the lender's option, on predetermined dates. A firm may issue bonds that include the right to purchase future issues of the firm's shares. Finally, there are participatory bonds whose return fluctuates with the firm's profits.

It is difficult, however, to make a statistical distinction between these new instruments and the traditional ones. Since they represent only a small part of business debt, we shall continue, in the rest of this chapter, to separate debt from equity financing.

The use of the different instruments varies according to the size of a firm's assets (Table 3-2).[4] These aggregate figures, however, do not indicate whether there are cases where demand was not met without a valid reason. We shall therefore analyse the factors that are likely to influence supply, first in the loan market and then in the equity market.

The Loan Market

As seen in the preceding chapters, financial-market failures may be the result of several factors: a lack of competition, regulation, the practices of private institutions, and the tax system.

Competition

Competition, or the lack of it, depends not only on the number of financial institutions or suppliers of funds in a given market but also on the control that can be exerted by any one supplier. This control may be total if a supplier is able to monopolize a given market on the basis of a financial instrument (loan, mortgage, financial lease, or shares) or on the basis of certain characteristics specific to its clientele (size of firm, industrial sector, or location).

There are many private financial institutions active in business finance in Canada: chartered banks, trust companies, life insurance companies, finance companies, and pension funds – to mention only the main ones. A study of their portfolios reveals that no company has a monopoly over a given instrument (Table 3-3). For example, all institutions offer to make loans or to purchase debentures. Trust, life insurance, and mortgage companies are active in the field of commercial mortgages. The debentures acquired by banks are often backed up by real estate and are thus a substitute for mortgages, and so forth. This substitutability of sources and instruments protects the borrower, who is also free to seek out other sources: other firms, relatives, friends, lawyers, or other individual investors. It is therefore impossible to isolate a market on the basis of the instrument employed.

Furthermore, financial capital can be transferred from one market to another at minimal cost, enabling large firms that obtain bank loans during periods of limited credit to transfer them to their smaller customers in the form of trade credit. Trade credit represents

Table 3-3

Business Financing Instruments Offered by Private Financial Institutions, Canada, 1980

	Loans	Debentures	Shares	Financial leasing	Mortgages	Commercial paper and bankers' acceptances	Total	Distribution
				($ Millions)				(Per cent)
Chartered banks	47,935	7,155	-	-	-	15,684	70,774	52.7
Trust companies	323	797	1,460	217	3,511	859	7,167	5.3
Mortgage loans companies	188	192	501	59	1,230	38	2,208	1.6
Credit unions	599	401	-	-	1,883	-	2,883	2.1
Quebec savings banks	-	150	-	-	260	-	410	0.3
Life insurance companies	-	7,260	1,934	-	5,919	343	15,456	11.5
Property and casualty insurance companies	-	1,522	1,431	-	375	402	3,730	2.8
Financial corporations	6,061	--	13	1,296	95	5	7,470	5.6
Financial leasing corporations	349	-	5	1,286	2	-	1,642	1.2
Investment dealers	-	39	104	-	-	1,422	1,565	1.2
Investment funds	-	176	1,003	-	17	291	1,487	1.1
Closed-end funds	-	13	395	-	--	6	414	0.3
Mortgage investment corporations	-	6	-	-	80	-	86	0.1
Real estate investment trusts	-	6	--	-	447	-	453	0.3
Trusteed pension funds	-	5,199	6,452	-	-	-	11,651	8.7
Business financing corporations	5,113	58	57	243	669	665	6,805	5.1
Total	60,568	22,974	13,355	3,101	14,488	19,715	134,201	100.0
					(Per cent)			
Distribution	45.1	17.1	10.0	2.3	10.8	14.7	100.0	

SOURCE Statistics Canada, *Financial Institutions, Financial Statistics*, First quarter 1982, Cat. 61-006; ans *Trusteed Pension Plans, Financial Statistics*, 1979, Cat. 74-201; *Bank of Canada Review*, November 1981; *Supplement to the Canada Gazette of Saturday, May 10, 1980*, Statement of Assets and Liabilities, Chartered Banks of Canada, as at March 31, 1980.

almost half of the short-term debt of all businesses and is relatively larger among small firms; it is used to finance 19 per cent of the latter's assets compared with 10 per cent in the case of the larger firms (Chart 3-2). Financial assets can also be transferred from one region to another and between firms operating in different industrial sectors. Thus no financial institution is in a position to isolate a market on the basis of customer characteristics.

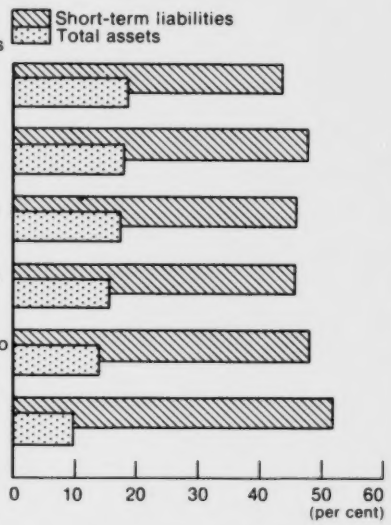
While no supplier of funds can create a monopoly, some lenders may obtain partial control over a given market because the intensity of competition may be limited by the small size of this market. Canada's capital market is fairly small. The provision of financial services requires highly specialized resources for which a small market cannot guarantee an adequate return. If demand is insufficient to allow the lenders to operate at a scale large enough to cover their costs in the long run, including the opportunity cost of their financial capital, they will withdraw from some markets or will not attempt to penetrate others. There is therefore a minimum scale below which financial institutions cannot operate efficiently.

The effect of insufficient demand is even stronger when financial services vary greatly in terms of both the instruments used and the characteristics of borrowers. From the mid-1940s to the mid-1960s, the supply of term loans to business was inadequate, either because of insufficient demand in relation to the minumum level required for a lender's operations or because of restrictions imposed by the regulation in effect at the time. It is these two factors that were responsible for the establishment of the Industrial Development Bank.

Today, the situation has changed, with the activities of banks expanding in this area and with the presence of specialized lenders. Term loans by chartered banks have grown rapidly over the last fifteen years, and their proportion of total loans has increased significantly (Chart 3-3). Term lenders have also catered to the needs of a growing number of businesses. This led private sector representatives to state, during parliamentary committee discussions prior to the passage of the act creating the Federal Business Development Bank, that the term loan gap observed in 1944 had disappeared 30 years later and

Chart 3-2

Business Trade Credit as a Proportion of Short-Term Liabilities and of Total Assets, by Size of Assets, Canada, 1977



SOURCE Estimates by the Economic Council of Canada based on data from Statistics Canada.

that private institutions were now in a position to finance small businesses.

Regulation

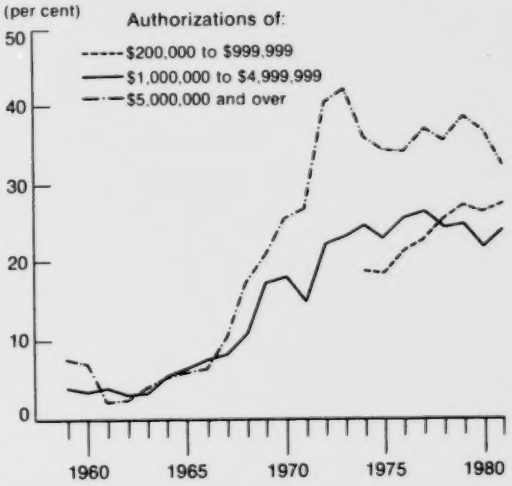
Regulation can influence the behaviour of financial institutions in several ways. First, direct limitations on the range of securities in which an institution may invest have an immediate effect on the allocation of its resources. Second, constraints on the distribution of its assets or the composition of its liabilities may limit the diversification of its portfolio and increase its operating risk or alter its financial risk. It may then be forced to limit its acquisitions of investments that individually seem risky. Finally, regulation that excludes some categories of lenders from certain markets affects their rate of return and induces them to alter their loan and investment policies.

Federal regulation has designated short-term lending as the domain of chartered banks. This was established by sections 178 and 186 of the Bank Act of 1980. The former section enables banks to accept inventories of goods in process. The latter also allows them to accept warehouse receipts or bills of lading as security for a loan. Although the Investment Companies Act empowers such firms to extend loans under the guarantees indicated in section 186, they must register each collateral separately, whereas banks may register them in bulk. This represents a significant cost advantage for the banks. With regard to unsecured short-term loans, both acts again favour banks, quasi-banks, and investment companies.

As for long-term financing, the mortgage market is open to all types of financial institutions. It should be noted, however, that the amount that any one company may invest in mortgages is subject to certain restrictions. These are even more stringent in the case of debentures or bonds with no specific guarantee attached. Generally speaking, the less specific the guarantee, the stricter the requirements as to the amount and stability of the borrower's earnings or of its interest and dividend payments. These regulations, intended to protect the savings of Canadians – especially savings entrusted to pension funds and life insurance companies – are detrimental to small businesses because their profits are less stable. Large firms experiencing financial difficulties or having just completed a major investment program that has temporarily reduced their rate of return probably find themselves in a similar situation.

Chart 3-3

Chartered Banks' Term Loans as a Proportion of their Total Loans, Canada, 1959-81



SOURCE Estimates by the Economic Council of Canada based on confidential data.

The so-called "basket clause," which allows life insurance companies and pension funds to invest up to 7 per cent of their assets in securities that do not fall under their general investment powers, was incorporated into the act regulating these institutions to alleviate the burden of regulation. Especially in view of the continuous changes in instruments transacted on financial markets, the purpose of the basket clause was to make it unnecessary to amend the legislation every time that some financial market innovation had to be accommodated.

The basket clause was used differently by the industry, however. In practice, life insurance companies and pension funds used the clause only to acquire securities that were expected to qualify as eligible investment within a short period of time rather than to expand their "investment powers." For example, under the Canadian and British Insurance Companies Act, an unsecured investment in a company is allowed only if that company has recorded profits of about 5 per cent in each of the past five years. The basket clause can be used by these financial institutions to purchase securities issued by a firm that has met the profitability requirements within the preceding four years and is expected to continue to do so. Thus it will soon have registered five years of profitability, as stipulated under the "investment powers" of life insurance companies and pension funds. In fact, despite the basket clause, the requirements as to security margin, amount and stability of interest, earnings, and dividend payments have become industry standards of quality. Thus, the existing regulation may indirectly constrain the investments of these financial institutions.

Finally, it should be pointed out that the regulation was designed with the existing categories of financial institutions in mind rather than in relation to the functions they perform or the instruments they use.[5] Consequently, chartered banks, trust companies, credit unions, life insurance companies, and pension funds are all governed by distinct laws. As these institutions hold a broad range of financial assets and as the level of substitution among them is high on the demand side, regulation that could prove constraining for some categories of institutions does not necessarily impose restrictions on loan markets as a whole. That is not to say that regulation does not impose restrictions on certain specific markets – such as that for short-term loans – or a greater burden on certain categories of borrowers. Regulation may make some forms of short-term financing more expensive, particularly for inventories, if the chartered banks do not operate in a competitive world, as was suggested in a study conducted several years ago.[6] The admission of foreign banks under the Bank Act of 1980 may improve the situation. Regulation does impose some restrictions on unsecured bond financing, but because of instrument substitutability it does not put severe restrictions on long-term debt financing.

The Practices of
Private Financial Institutions

Financial institutions are often accused of not treating all their customers equally; small and medium-sized firms are often said to be the victims of such differentiated treatment. For example, they are accused of charging small businesses high interest rates or of requiring excessive guarantees. But do these requirements indeed constitute discrimination against small and medium-sized firms?

The interest rate on a business loan is the sum of the interest rate on a risk-free loan, the anticipated rate of inflation, a premium for operating risk, a premium for financial risk, and the costs of the transaction. The first two elements are common to all borrowers and therefore will not be considered here.

The variability of a firm's rate of return before interest and taxes is an indicator of its operating risk. This risk is linked to the fluctuations in the firm's operating income, which in turn are related to swings in the economic cycle and to the presence of fixed operating costs. The higher the fluctuations in business operating income, the greater the risk. The variability of a firm's rate of return, however, is inversely related to its size. In particular, extreme rates of return are relatively common among firms with less than $1 million in assets (Table 3-4). We can therefore assume that the premium for operating risk will generally be inversely related to the firm's size.

The same applies to financial risk, since the debt-to-asset ratio is again inversely related to the firm's size (Table 3-5). Financial risk is caused by fluctuations in the firm's net income before interest and taxes. The net income is more variable if the firm finances a major share of its assets through loans, thereby incurring fairly high fixed financial charges.

The highest proportion of firms with both a negative rate of return and a high debt-to-asset ratio is found among businesses with assets of less than $250,000. These firms also have a relatively lower interest coverage ratio – the ratio between net before-tax income and depreciation costs on the one hand, and interest payments on the other (Chart 3-4).

Table 3-4

Distribution of Independent Firms in the Primary and Secondary Sectors, by After-Tax Rate of Return of Assets and by Size of Assets, Canada, 1977

	Assets					
	$249,999 and less	$250,000 to $999,999	$1,000,000 to $4,999,999	$5,000,000 to $9,999,999	$10,000,000 to $24,999,999	$25,000,000 and over
	(Per cent)					
Rate of return						
Negative	28.2	17.4	14.3	13.2	8.8	9.2
0 to 8 per cent	18.7	28.9	30.1	34.8	33.5	39.1
8 to 16 per cent	22.8	28.9	39.0	37.1	38.0	37.4
Greater than 16 per cent	30.3	24.8	16.5	15.1	19.7	14.4
Total	100.0	100.0	100.0	100.0	100.0	100.0

SOURCE Jean-Marie Gagnon and Benoit M. Papillon, "Canadian Firms as Seen through their Financial Statements," a paper prepared for the Economic Council of Canada, 1982.

Table 3-5

Distribution of Independent Firms in the Primary and Secondary Sectors, by Debt-to-Asset Ratio and by Size of Assets, Canada, 1977

	Assets					
	$249,999 and less	$250,000 to $999,999	$1,000,000 to $4,999,999	$5,000,000 to $9,999,999	$10,000,000 to $24,999,999	$25,000,000 and over
	(Per cent)					
Debt-to-asset ratio						
0.77 and over	29.6	25.1	21.5	20.6	12.0	10.0
0.77 to 0.55	22.3	25.5	29.0	20.0	22.4	13.2
0.55 to 0.33	15.2	23.9	23.0	22.7	21.1	33.4
0.33 and less	32.9	25.5	26.5	36.7	44.5	43.4
Total	100.0	100.0	100.0	100.0	100.0	100.0

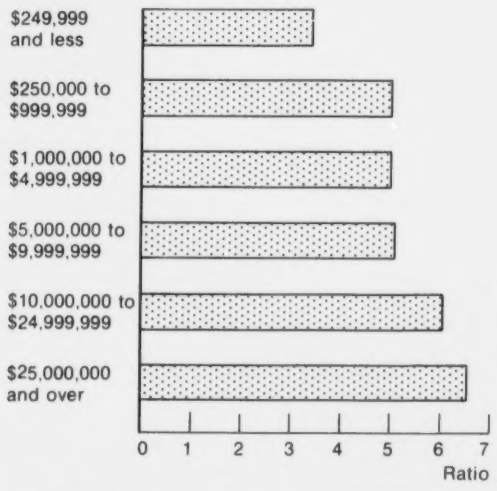
SOURCE Gagnon and Papillon, "Canadian Firms."

The extent of the difference in interest coverage between size categories of firms varies from one industrial sector to another. In the food and beverages sector, for instance, the interest coverage ratio rises from 5.0 for small firms to 6.6 for larger firms; in the transportation equipment sector, the ratio varies between 2.6 and 17.7. Creditors of small businesses therefore have a relatively small safety margin. Of course, the risk of loss on a loan is offset by the fixed assets offered as collateral, which generally constitute a substantial guarantee because it is fairly easy to check their existence, condition, and change. The relative importance of this class of assets decreases, however, with the size of the company. Financial institutions lending to small and medium-sized firms thus have to deal with lower interest coverage ratios and relatively fewer fixed assets than in the case of larger firms. They therefore consider such financing to be riskier.

Finally, the financial institution incurs transaction costs related to the gathering and analysis of information on customers or to its portfolio management. The location of the borrower influences transaction costs, because the cost of collecting information increases with the distance between the firm's offices and those of the financial institution. Furthermore, these expenses are often unrelated to the amount of

Chart 3-4

Ratio of Business Operating Income (before Amortization, Interest, and Taxes) to Interest on Debt, by Size of Assets, Canada, 1977



SOURCE Estimates by the Economic Council of Canada based on data from Statistics Canada.

the loan, so that their relative size is inversely proportional to the size of the transaction or, specifically, to the total volume of business that the new customer will bring to the lending institution. Small and medium-sized businesses, as well as firms located in remote regions, must therefore expect to pay higher costs for their external financing.

The result of all this is that the higher interest rates charged these firms are not primarily attributable to a credit gap but may simply reflect the costs incurred by the lender. On the other hand, reluctance on the part of creditors to charge small and medium-sized businesses a rate that is high enough to cover all risks and transaction costs may lead to a distortion of the market mechanism. This "implicit regulation" means that the most "visible" institutions assign a high cost to government sanctions and public criticism resulting from high prices. As a result, they prefer to resort to quantity rationing as opposed to price rationing. For instance, chartered banks will hardly ever charge an interest rate higher than prime plus 3.5 per cent. Because of the existence of a self-imposed ceiling on interest rates, funds will first go to customers presenting the lowest risk and to those whose accounts are least costly to manage. Small and medium-sized firms, as well as firms whose head offices are some distance from the major financial centres, do not meet these criteria and, consequently, are served last.

The Tax System

Some provisions of the Income Tax Act – namely, those relating to the deductibility of interest on loans, the calculation by financial institutions of provisions for loan losses, and various other deductions – may affect the amount of loans to business.

In Canada, as elsewhere, interest on loans is a deductible expense when a business calculates its taxable income, while the cost of other sources of funds (preferred shares, common shares, and reinvested profits) is not. This is why it is traditionally argued that Canadian income tax legislation – and U.S. legislation as well – tends to favour debt financing. Recently, the validity of this analysis has been questioned.[7] The deductibility of interest payments is not exclusive to the taxation of businesses but is also extended to shareholders who borrow to invest in a company with little or no debt. More specifically, the choice between the personal indebtedness of a shareholder and that of the corporation of which he is a co-owner depends on four parameters: the marginal rate of taxation on the shareholder's income; that on the company's income; the difference between the interest rate on the shareholder's loan and on the corporation's loans; and, finally, the corporation's dividend policy. The combination of the numerical values of these four parameters will determine whether or not a personal loan contracted by the shareholder is preferable to company indebtedness.[8] All in all, the impact of income taxes on the choice of a financial structure – the choice between debt and equity financing and between various financial instruments – is probably less than some analysts would have us believe. It is certain, however, that for the economy as a whole, if not for specific firms, the tax structure favours debt financing.

Second, tax rules relating to provisions for loan losses may be a factor reducing the amount of funds that financial institutions make available to small and medium-sized firms. Banks, trust companies, "caisses populaires," and credit unions are allowed to deduct from their taxable income a provision for bad debts. As the permissible deduction is more closely related to the volume of loans outstanding than to portfolio risk, loans granted to small and medium-sized businesses may, to some extent, be "fiscally costly" for the institution.[9] By using up the

reserve allowed under the Income Tax Act, the institution, in lending to large firms, may benefit from a deduction for bad debts without actually running the corresponding risk. The "free" deduction it may thus claim will depend, for a given portfolio size, on the overall riskiness of its portfolio.

Finally, it is necessary to analyse the role of the provision that enables business losses to be carried over from one taxation year to the next. It is of interest to small businesses in particular, because the incidence of negative rates of return is greater for them. The losses for a given business year may be carried back to the preceding year and forward to the following five years. For a new company, the tax reductions for losses are therefore automatically deferred; for a company that takes more than five years to become profitable, they may even be lost totally.

On the one hand, government provides loans to small and/or new firms; on the other, it reduces their cash flow by limiting the tax deductions to which they are entitled. The "loss carry-over" provision is both unfair and inefficient. Government sharing in profits is immediate, whereas sharing in losses may be deferred. In addition, if the loss is carried forward to later years, the firm's cash flow will increase only when the firm becomes profitable again – that is, when the tax credit has lost part of its usefulness as a source of financing.[10] This problem will become more serious in the future, since the measures announced in the federal budget of November 1981 are intended to make it more difficult to transfer losses between affiliated companies (from subsidiary to parent, or vice versa).

In summary, while current tax laws may aggravate the cash flow problems of businesses by their different treatment of losses and profits, and while they may induce financial institutions to favour large, lower-risk companies, they also favour debt financing in certain circumstances.[11]

The Financial Structure of Firms

The analysis of the number of financial institutions, of their practices and portfolios, of regulation, and of the taxation legislation to which they are subject, does not point towards the existence of a generalized lending gap in the term-loan market. On the contrary, it shows that, on the whole, all of these factors often come together to favour debt financing. Nonetheless, the data available do not provide formal proof that no credit gap exists. A scientific demonstration would require a simultaneous examination of the transactions actually completed and of those which never took place – the ultimate "mission impossible!"

The analysis of the financial structure of Canadian corporations tends to confirm the results observed above. As a rule, the smaller the firm, the greater its use of debt financing and short-term debt; the larger the firm, the more it tends to issue shares and debentures. As seen earlier (Table 3-5), there is, in the primary and secondary sectors, an inverse relation between the size of independent firms, which have little or no financial links with affiliated companies and are thus more likely to be victims of a potential credit gap – and their debt-to-asset ratio. In fact, 30 per cent of the firms with assets of less than $250,000 have a debt-to-assets ratio exceeding 77 per cent; this proportion drops to 10 per cent for firms with assets exceeding $25 million. Similar results were obtained for firms in the tertiary sector.[12]

On the other hand, the relative importance of total long-term debt does not vary significantly between size classes of firms (Table 3-2). And, if total short-term debt is relatively more important in the case of small and medium-sized firms, it is because it compensates for a relatively lower amount of equity. Finally, a firm's financial structure apparently does not depend on the location of its head office.

These results do not, however, rule out the possibility of occasional problems caused by inadequate competition or the small size of Canada's financial market, particularly for financing small and medium-sized firms or firms located in distant regions.

The Equity Market

While we cannot conclude that there is a generalized credit gap in debt financing, the analysis does reveal a problem of quite a different nature: the low equity base of small and medium-sized firms. This problem is by no means new, but economic developments in recent years have drawn attention to the urgency of reducing this weakness of corporate financial structures, particularly in small and medium-sized firms. Most businesses have recently registered an increase in their debt-to-asset ratio. When they lack a solid reserve of equity, they are deprived of a cushion to weather periods of high interest rates and lagging sales. To find a solution to this problem, one must first determine whether the insufficient equity base of small and medium-sized firms is the result of imperfections in the equity market.

Obstacles to Equity Financing

The regulation of certain categories of financial institutions (life insurance companies, trust companies, and pension funds) with respect to their equity investments identifies the types of companies in which they may invest, the maximum percentage of

their assets that they may invest in any single company, and the maximum percentage of a company's share capital that they may own. But it is the "performance clauses" pertaining to the stability of earnings and dividends, referred to previously, that impose the greatest restrictions. Finally, the sale of securities to the public is subject to the regulations of the securities commissions and stock exchanges. The purpose of regulation by the commissions is to ensure that information they deem useful is passed on to investors. Stock exchange regulations allow the listing of only those securities with characteristics that are likely to ensure the development of a genuine secondary market. With the exception of some special cases, a company is not generally listed by the Toronto Stock Exchange (TSE) or the Montreal Stock Exchange (MSE) if the market value of its publicly held shares and its net tangible assets is less than $1 million, if the number of its shareholders is less than 300 (TSE) or 200 (MSE), and if its earnings are less than $200,000 before tax (TSE) or $100,000 after tax (MSE). It should be noted, however, that the MSE requirements are much less stringent for companies considered to be in expansion; the requirements of the Vancouver, Calgary, and Winnipeg Stock Exchanges are even lower.[13]

Taxation, as we have seen, influences the choice between debt and equity financing. The deduction of interest payments may tip the balance in favour of debt financing. The preferential treatment of capital gains (only half of them being taxable) may prompt firms to finance themselves through increased reinvestment of profits rather than through additional share issues. The dividend tax credit reduces this advantage appreciably, however. While dividends paid to a taxable Canadian corporation are not subject to income tax in order to prevent double taxation, this exemption does not apply to capital gains. Thus financial institutions that have acquired equity in a company will prefer a dividend to a capital gain. The effect of this provision will be mitigated if companies whose dividends are low relative to their earnings sell their shares to private individuals or nontaxable organizations rather than to financial institutions. The income tax provisions that may lead an investor, generally an institution, to prefer a dividend to a capital gain may constitute an impediment for some firms in their attempt to have recourse to equity finance.

The practices of major financial institutions may also limit the access of smaller firms to external equity capital. For instance, the major insurance companies have lists of accepted companies whose shares they will purchase, and these lists are almost exclusively made up of large corporations. Pension funds and trust companies follow similar practices.

The structure of the Canadian equity market and the lack of competition in that market may prevent smaller firms from obtaining equity finance. Although most private institutions hold shares in their security portfolios, these shares are invariably issued by large companies, and they are easily transferable. The major financial institutions would not be interested in investing in the share capital of a company with assets of less than a few million dollars. Venture-capital firms are an exception, but they are small and play a minor role in business finance.

In addition, the high cost of new share issues cannot be ignored in this context. In a survey of over 200 such transactions, the cost of issue was divided into two parts.[14] The first represented underwriting costs – legal costs, printing costs, auditors' fees, and so on – which amounted to 7 per cent of the yield of the issue. The second was an opportunity cost equal to the difference between the market value of the shares and the amount paid to the firm by the underwriter. The second cost was much higher than the first, equaling 40 per cent of the yield of the issue. Altogether, the owners of small and medium-sized firms sacrificed about 47 per cent of the value of their shares to gain access to the public market.[15] As expected, the cost of issue is inversely related to the size of the issue and of the issuing company. This high cost of resorting to external equity capital prompts the businessman to finance the business with loans until he is able to sell his company outright, thus receiving a premium rather than paying one. This may explain why small and medium-sized firms issue few shares.

Comparison with the United States

A comparison between the Canadian and U.S. equity markets confirms the existence of a structural problem in Canada. The number of small initial public offerings of industrial shares[16] (less than $2 million) in the United States in the period 1977-81 was 234 times the Canadian number – vastly greater than ratios between the two countries for the number of corporations (7:1), for manufacturing shipments (9:1), and for the number of equity issues (77:1).[17] Over the same period, there were no initial public offerings in Canada of less than $500,000, while there were 130 such issues in the United States. How can these differences be explained?

Regulations in the two countries do not appear to play an important role. The "prudent man" rule in U.S. legislation (Employment Retirement Income Security Act, 1974), intended to protect depositors, imposes the same restrictions as the performance

clauses in the Canadian legislation; and the cost of small issues is equally high in both countries. It is still unclear to what extent issues authorized under the U.S. regulations, aimed at speeding up the underwriting process and reducing the cost of issues of less than $1.5 million, have been used. Capital gains taxation is slightly lower in the United States than in Canada, but U.S. investors must hold a security for at least six months to benefit from lower tax rates – a requirement not found in Canada. It is difficult to measure the overall effect of these two elements.

United States investors do not appear to have less aversion to risk than their Canadian counterparts. Issues of small firms do carry greater risk because of the high cost of gathering reliable information on their characteristics, their lower liquidity, the greater possibility of manipulating these issues, and their lower visibility. Yet Canadian investors have, in the past, demonstrated their willingness to buy small initial public offerings by the natural resources sector, where risk is particularly high.

Finally, while there are about four times as many national brokers in the United States as in Canada, there are about 34 times as many regional brokers (2,887 compared with 86 in Canada). Regional broker-dealers are crucial to the secondary and the initial-public-offering markets because they manage the majority of small offerings. In the 1972-80 period, regional broker-dealers managed 79 per cent of all initial public offerings in the United States and 92 per cent of the offerings of issues of less than $10 million in annual sales. In Canada, about three-quarters of the initial public offerings of industrial shares under $2 million in the 1970-72 period were managed by regional broker-dealers.

Summary

The analysis of regulation, taxation, corporate financial structures, and the functioning of markets reveals that small businesses, in particular, find it difficult to obtain equity finance. To increase their assets, small and medium-sized firms are therefore often compelled to either reinvest their cash income or rely on individual investors. Even those two solutions are not always available, if net cash income is inadequate or if there are not enough individual investors. They have few alternatives other than to turn to government.

Of course, not all small and medium-sized firms encounter such problems, since some have high rates of return and others have few debts. On the other hand, very small firms with very low, or even negative, rates of return tend to have an inadequate level of equity. The lack of equity in this case is caused not by a market failure but by the results of their operations. The small businessman's aversion to parting with shares in his company or to issue new ones because of "agency costs"[18] may also explain the smaller equity base. Agency costs are probably higher for small and medium-sized firms, particularly when these firms seek outside financing for the first time, because the supervisory costs incurred by those supplying the funds are fixed, so that their relative importance diminishes as the amount of financing increases.

Whatever the cause, it remains that Canadian firms, particularly small or medium-sized firms, have a weak equity base. Are the government financing programs that are directed at these firms capable of solving this problem?

Government in Business Finance

Despite the rather vague nature and the multiplicity of the objectives assigned to the public agencies, an assessment of their activities can be carried out in relation to the two major categories of objectives mentioned earlier: to correct market imperfections and to contribute to economic and social development.

Correcting Market Imperfections

Procedures

The evolution of capital markets over the last 10 years has underscored the need for the public agencies providing assistance to business to determine the areas where market weaknesses exist and to identify the firms that are affected, in order to direct their activities towards the solution of actual problems. In order to do so, the agencies must follow a proper selection procedure, serve a carefully chosen clientele, and employ appropriate instruments.

Selection Criteria — The procedure for granting financial assistance – that is, the rules and practices governing the selection of recipients from among the applicants – is important to ensure the effectiveness of government intervention. There are three selection criteria, based on: the characteristics of a business in terms of its size, industrial sector, or location; its viability; and the identification of businesses that are affected by market imperfections and that could be assisted by government action.

The identity criteria are the most important: a firm's credit application will not be considered unless it meets the lending agency's criteria in that respect. For instance, Prince Edward Island's Industrial

Enterprises Incorporated and the Newfoundland and Labrador Development Corporation consider applications only from businesses in the manufacturing sector. The Small Businesses Loans Act limits federal assistance under this legislation to businesses with a sales volume of less than $1.5 million; and Manitoba's Communities Economic Development Fund assists firms located in remote areas. Our analysis did not single out the sector to which the firm belongs as a factor explaining differences in the supply of finance. Although both the size and location of a business may account for some of the differences in the supply of funds, it cannot be concluded that all small firms or all firms located in nonmetropolitan areas are victims of a credit gap.

The lending agency's identity criteria are therefore only the first step in determining which businesses are to receive its assistance. They make it possible to identify a group of businesses among which victims of a credit gap might be found; but not every firm in the group is necessarily a victim. It is therefore up to the agency reviewing the application for assistance from a business that meets its identity criteria to decide whether the firm has suffered from financial market imperfections.

Application of the viability criterion, the second in order of importance, is a step in this direction. This criterion is prominent in the legislation and regulations governing all programs and agencies. Their administrators must analyse the private costs and benefits of the project or firm for which financing is requested, in order to determine whether the income generated will be sufficient to cover the costs, including the cost of borrowing. If it is found that private lenders refuse financing because a project or firm is not economically viable, there can be no claim that the project or firm suffered from a market imperfection, since the refusal is justified by its poor chance of success. When a viable firm is also refused financing, this does not prove the existence of a credit gap, since it must then be demonstrated that the private institutions favoured another, less viable firm, which is no easy task.

The third set of selection criteria is directly related to credit gaps. Some agencies require borrowers to prove that they have been unable to obtain private financing on reasonable terms. For example, the Federal Business Development Bank contacts a firm's banker to give notice of its intention to extend credit and to inquire if the banker would object. The banker seldom does, because the FBDB loan increases the liquidity of his client. It has also been pointed out in parliamentary committee proceedings that in order to ascertain the existence of a credit gap, the Federal Business Development Bank should seek letters of credit refusal from term lenders as well.

According to a survey conducted in December 1980 by the Canadian Federation of Independent Businesses (CFIB), only 35 per cent of the businesses that had received financial assistance from a government agency or program had been refused financing by a private institution.[19] If we deduct from this percentage the proportion of firms that could have obtained funds from another private lender or that did not merit financing on the basis of their risk-return combination, the percentage of the firms that were the victims of a credit gap would be very low.

According to another survey covering 35 representative businesses that had benefited from government assistance, 23 per cent of the managers questioned, speaking on behalf of firms accounting for 50 per cent of the capital expenditures of all the companies surveyed, stated that they would have undertaken exactly the same project even without government assistance.[20] The results also show that 81 per cent of the clients of one large lending agency claimed that government intervention had not modified the nature of the project, whereas 60 per cent of the clients of another major agency believed that they might have found financing elsewhere. Although the sample is small, this survey nevertheless raises doubts as to whether the volume and nature of the investments would have been very different had there been no government intervention and whether the recipients of the assistance had suffered from a credit gap.

Except for a few small agencies, little importance is attributed to the market imperfection criterion, particularly when it is compared with the viability criterion. In fact, it would be preferable for public agencies to clearly define their role and their intended clientele, and to place more emphasis on the identification of credit gap victims, if it is, in fact, this type of firms that they wish to assist.

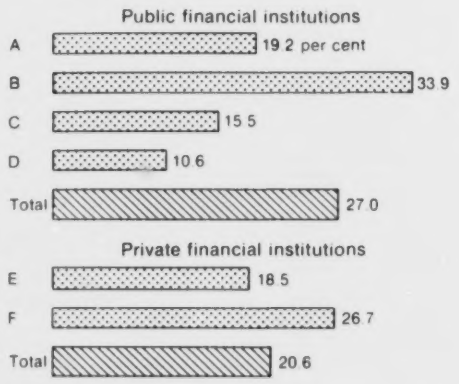
Clientele — If governments are to play a complementary role in financial markets, the clientele of their agencies should differ from that of the private financial intermediaries. When the intent is to correct a credit gap, the differences should be in the size, age, or geographic location of the firms. There should be no difference in the financial profiles, however, since the public agencies would be financing businesses that had met with a refusal from the private sector for no valid reason.

In most cases, loan and guarantee agencies and programs do not seem particularly inclined to promote new or small firms – those most likely to suffer from a credit gap. According to a CFIB December

1980 survey, firms in existence for less than two years received less than their share of assistance from government agencies and programs at both the federal and provincial levels. This is confirmed by the results of an Economic Council survey of the clientele of public and private financial institutions for the period 1977-79 (Chart 3-5).[21] Two of the four public agencies examined had a smaller proportion of new businesses among their clientele than the two private institutions that took part in the survey.

Chart 3-5

New Businesses as a Proportion of Total Clients of Selected Public and Private Financial Institutions,[1] Canada, April 1, 1977 to March 31, 1979



1 The names of the institutions have been withheld in order to maintain confidentiality.

SOURCE Confidential data gathered by an auditor for the Economic Council of Canada.

The situation is similar with respect to financing given to small businesses, defined here as those with an annual sales volume of less than $2 million (Table 3-6).[22] While 97 per cent of Canadian firms are small, the proportion of the number of loans extended to them by three large agencies is well below that figure. In the case of two agencies, the proportion of the total amount of loans extended to businesses with a sales volume of less than $250,000 is less than the relative share of these firms in the sales volume of all businesses operating in Canada. Perhaps even more significant is the comparison of the clientele of government agencies with that of private institutions (Tables 3-7 and 3-8). Public lending agencies grant a relatively higher proportion of the volume and number of their loans to very small or very large businesses (those with assets of less than $250,000 or more than $10 million, respectively), while private institutions tend to favour medium-sized firms.

Table 3-6

Cumulative Distribution of the Number of Loans Extended to Businesses by Four Public Financial Institutions,[1] by the Clients' Sales Volume, Canada, 1977-79

	Institutions			
	A	B	C	D
	(Per cent)			
Sales volume				
Less than $50,000	22.3	13.8	25.0	6.4
Less than $250,000	68.1	26.6	45.2	26.2
Less than $2,000,000	98.0	66.0	78.5	86.5
Less than $20,000,000	100.0	96.8	95.2	97.6
Total	100.0	100.0	100.0	100.0

1 The names of the four institutions are not mentioned in order to maintain confidentiality. The sample covers the period from April 1, 1977 to March 31, 1979.

SOURCE Confidential data gathered by an auditor for the Economic Council of Canada.

The situation is quite different for some small agencies – those whose loans outstanding do not exceed $10 million. For example, 75 per cent of the new loans extended by one small agency went to businesses just starting up. In another case, this percentage ranged, over the years, between 32 and 70 per cent, averaging 47 per cent. One program had earmarked all of its funds to businesses with assets of less than $1 million, and 95 per cent of its loans went to businesses with assets of less than $500,000. But these small programs and agencies represent only a small proportion of government financing activities.

Some programs endeavour to channel their assistance to businesses located in regions remote from large urban centres, where local financial services are of lower quality. For example, 73 per cent of all financing authorizations of the Alberta Opportunity Company and the Alberta Commercial Corporation have gone to businesses outside Calgary and Edmonton.

Finally, our survey also examined the financial statements of over 1,000 borrowing firms, some 800 of which were clients of public agencies. As far as profitability is concerned, it was found that the accounting rates of return of the public-sector clients were lower than those of the private-sector clients

Table 3-7

Distribution of the Number of Loans Extended to Businesses by Six Public and Private Institutions,[1] by Size of the Clients' Assets, Canada, 1977-79

	Public institutions				Private institutions	
	A	B	C	D	E	F
	(Per cent)					
Assets						
$249,999 and less	81.9	22.3	50.6	38.1	30.0	12.0
$250,000 to $999,999	16.3	29.8	23.5	39.7	41.0	48.0
$1,000,000 to $4,999,999	1.6	38.3	14.8	17.4	24.9	32.0
$5,000,000 to $9,999,999	-	8.5	7.4	0.8	2.9	8.0
$10,000,000 and over	0.2	1.1	3.7	4.0	1.2	-
Total	100.0	100.0	100.0	100.0	100.0	100.0

1 The names of the six institutions are not mentioned in order to maintain confidentiality. The sample covers the period from April 1, 1977 to March 31, 1979.

SOURCE Confidential data gathered by an auditor for the Economic Council of Canada.

Table 3-8

Distribution of the Value of Loans Extended to Businesses by Six Public and Private Institutions,[1] by Size of the Clients' Assets, Canada, 1977-79

	Public institutions				Private institutions	
	A	B	C	D	E	F
	(Per cent)					
Assets						
$249,999 and less	53.1	4.9	25.2	14.3	9.7	4.2
$250,000 to $999,999	31.5	14.6	7.8	39.2	31.0	35.1
$1,000,000 to $4,999,999	5.9	54.8	7.0	31.2	45.2	42.3
$5,000,000 to $9,999,999	-	22.9	5.6	2.2	11.3	18.4
$10,000,000 and over	9.5	2.8	54.4	13.1	2.8	-
Total	100.0	100.0	100.0	100.0	100.0	100.0

1 The names of the six institutions are not mentioned in order to maintain confidentiality. The sample covers the period from April 1, 1977 to March 31, 1979.

SOURCE Confidential data gathered by an auditor for the Economic Council of Canada.

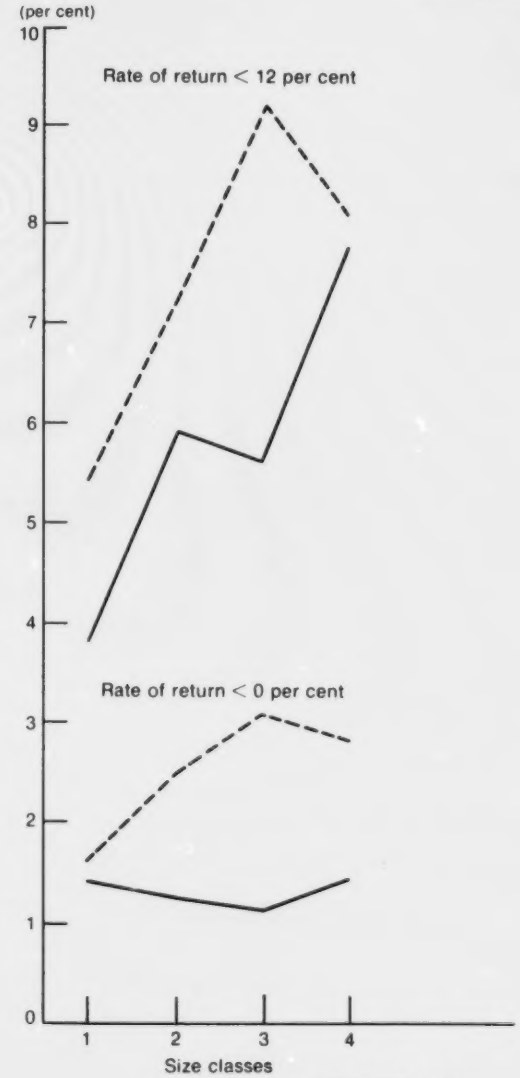
(Chart 3-6). Only 38 per cent of the private lenders' clients with assets of less than $250,000 had a rate of return under 12 per cent, but 55 per cent of the public lenders' clients were in that category. Almost all the public agencies' clients surveyed, with assets in the $1-to-5 million range, had a rate of return under 12 per cent, as opposed to only 56 per cent of the private lenders' customers in the same category. Finally, the proportion of firms with negative rates of return is much larger among the public lenders' clients than among those of private lenders.

With respect to the ratios reflecting the risks associated with a firm (the debt-to-asset ratio and the working capital ratio), Canadian firms as a whole – which constitute our reference "population" here – were less indebted and more "liquid" than those that borrowed from either public or private lenders. On the whole, the distribution of the debt-to-asset ratios of the clients of public lenders does not differ significantly from that of private-lender clients, except when the ratios are quite high. Thus, for firms with assets of less than $1 million, the proportion of private sector clients with a debt-to-asset ratio of more than 77 per cent is larger (Chart 3-7), while clients of the public sector in the same asset category are both less profitable and less indebted than those who borrow from private institutions. Clients of the public sector with assets of more than $1 million are also less profitable, but they are more indebted. Thus when public lending agencies extend loans to larger firms, it is to the riskier ones.

An analysis of financial structures, using a slightly more finely tuned statistical technique, confirms the differences noted between the two clienteles. It

Chart 3-6

Rates of Return before Interest and Taxes of Clients of Public and Private Financial Institutions, by Size of Assets, Canada, 1977

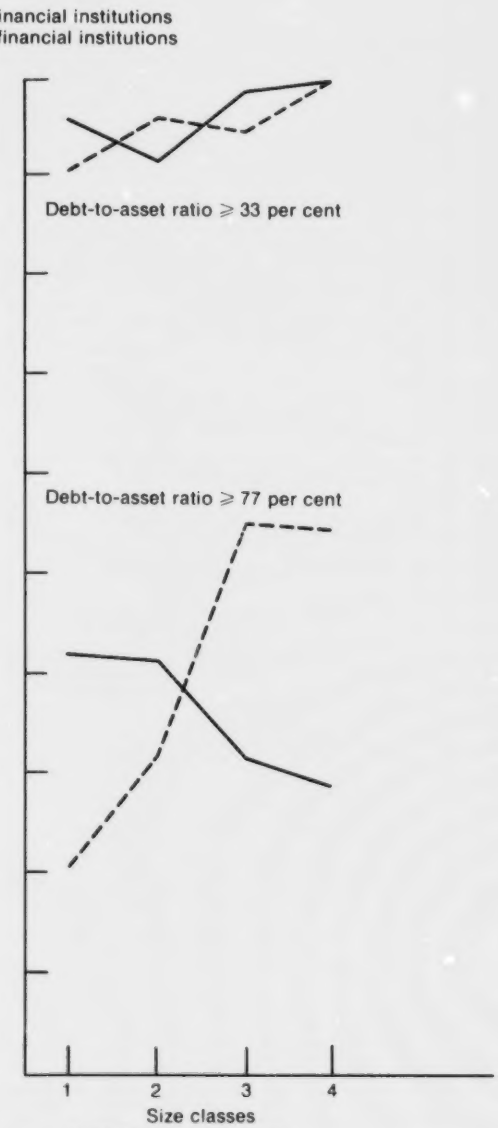


1 = $249,999 and less
2 = $250,000 to $999,999

SOURCE Jean-Marie Gagnon and Benoît M. Papillon, "Canadian Firms as Seen through their Financial Statements," a paper prepared for the Economic Council of Canada, 1982.

Chart 3-7

Debt-to-Asset Ratios of Clients of Public and Private Financial Institutions, Canada, 1977



3 = $1,000,000 to $4,999,999
4 = $5,000,000 to $9,999,999

SOURCE Gagnon and Papillon, "Canadian Firms."

shows that public agencies generally provide financing to firms with a lower rate of return, and lower financial or operating risks.

Instruments — Although some programs were instituted to provide a specific form of assistance to businesses, the enabling legislation of most government agencies today gives them the authority to provide assistance through the instrument best suited to each situation. Consequently, the choice of instrument is made not by the legislator but by the program administrators and their clients. The data show that loans constitute the main instrument of intervention.

The legislation authorizes 25 agencies, boards, and programs to provide loans, and 23 of these have taken advantage of this provision – to the extent of about $3 billion outstanding as of March 31, 1980. The average amount of a loan varies from agency to agency (Table 3-9), but it is generally directly related to the size of the lending agency. For instance, in 1979 the average loan by the Communities Economic Development Fund (Manitoba), with total assets of $1.3 million, was $28,000; the average for the British Columbia Development Corporation (assets of $88.7 million) was over $500,000. The Federal Business Development Bank (assets in excess of $1.6 billion) was an exception; its loans averaged $54,000 each. Despite these variations, the average public loan is generally lower than the average loan granted by private lenders. The average loan extended by Roynat amounted to $252,000 in 1979.

Table 3-9

Average Size of Loans Extended to Business by Selected Government Agencies or Programs, Canada, 1977-79

	1977	1978	1979
	($ Thousands)		
Federal Business Development Bank	45.5	48.4	54.5
Newfoundland and Labrador Development Corporation	97.0	176.1	238.7
Prince Edward Island Lending Authority	20.3	21.2	24.8
Nova Scotia Resources Development Board[1]	109.5	110.8	968.9
Société de développement industriel du Québec	317.5	268.2	156.7
Ontario Development Corporation	150.9	135.1	197.5
Communities Economic Development Fund (Manitoba)	18.5	25.5	27.8
Saskatchewan Economic Development Corporation	208.6	149.8	272.0
Alberta Opportunity Company	65.4	78.7	77.4
British Columbia Development Corporation	295.2	451.1	532.1
Low Interest Loan Assistance Program (British Columbia)	..	208.3	104.1

1 The high figure for the average loan in 1979 is attributable to loans extended to shipyards and to a $7.5 million loan to a firm in the energy sector.

SOURCE Annual reports of the agencies and programs.

The average maturity of public loans is also generally longer. While bank financing is generally short- or medium-term and the maturity of term lenders' loans ranges from three to ten years, Nova Scotia's Industrial Estates Limited, for example, grants loans with terms that vary from 10 to 20 years.

Government agencies require essentially the same type of collateral as the private sector – land, buildings, plant, or personal assets. Private institutions, however, require first-rank collateral, which ensures the recovery of at least part of their investment in the event of bankruptcy. Public agencies are sometimes satisfied with second-, third- or fourth-rank claims, which considerably reduces the likelihood of recovery. Moreover, for an identical collateral, public agencies often agree to lend larger sums than private institutions do, and they also often require a security that is based on the client's unencumbered assets and not determined in a way that will maximize the likelihood of recovery in case of default.

Finally, the interest rate charged varies from program to program. In one case, it is only 3 per cent; in another, it is linked to the provincial government's medium-term borrowing costs. And the rate may vary, depending on whether the firm has more or fewer than 100 employees or on whether its assets are more or less than $250,000. In yet another case, the agency surveys the rates charged by various private and public intermediaries and, after eliminating the two extremes, averages these rates to come up with its own rate.

In fact, the interest rates, the collateral required, and the amount of financing extended are not determined according to the borrower's risk-return combination, as should be the case if government were attempting to offset the effects of financial market imperfections. Furthermore, in such circumstances, the loans should not include a subsidy, because, as seen in Chapter 2, government supplementary financing should be granted on terms that reflect the costs and the risks. Subsidies, however, amounted to either $57 million or $176 million for the 1978/79 fiscal year, depending on whether they are calculated according to the cash flow or the social opportunity cost method (Appendix A).

On the other hand, as a credit gap is most likely to occur with equity financing, it is this instrument that government should favour; however, only 11 of the

19 agencies authorized to take an equity participation in private firms exercise this right, with an investment of $2.7 billion outstanding. If the Canada Development Corporation and Quebec's Société générale de financement – holding agencies similar to companies such as Power Corporation and Argus Corporation – are excluded, however, the value of investments by Crown corporations and departmental divisions falls to about $84 million – well below the figure for loans and even for guarantees. Indeed, 18 of the 19 agencies authorized to guarantee loans registered $534 million in contingent liabilities on March 31, 1980.

It is therefore clear that government equity financing plays a fairly minor role. This may be due to the clients' reluctance to dilute control and to the program managers' preference for managing a loan portfolio as opposed to a share portfolio. In any event, this situation does not help to correct financial market imperfections nor to improve the financial structures of businesses in general.

Conclusions and Possible Solutions

Our analysis reveals that government agencies that provide assistance to businesses do not appear to place priority on correcting credit gaps or identifying the victims of financial-market imperfections. These agencies use selection criteria based on the size and location of a firm, which are too broad to ensure that only the victims of a credit gap will benefit from their assistance. Thus it is not surprising that, on the whole, the recipients of government assistance do not have the expected general profile. Finally, the instrument favoured by government – a subsidized loan – is not appropriate in the context of a gap in equity financing. Of course, this is a general finding based on the normal practices of government lending agencies and on an overall analysis of their clientele. It should not, however, be interpreted as meaning that, among the clients of public lending agencies, there are no firms that have suffered from financing problems caused by market imperfections.

The approach and procedures developed by public agencies in the past do not fully correspond to the present needs. Today, judging by their debt-to-asset ratios, businesses have little difficulty in borrowing, regardless of their size. They may, however, encounter some difficulty in increasing or maintaining their equity base, and this is where government could play a complementary role in the financial markets.

Corporate Equity — Government can help to increase a firm's equity in several ways. For example, it could change the regulations that limit investments by major financial institutions in the shares of companies and particularly in those issued by small and medium-sized businesses, while also taking into account the interests of the depositors. It could also contribute to the development of venture capital firms specialized in equity financing of small and medium-sized firms. Government could also change the corporate and personal income tax system in order to make investment in corporate shares more attractive, and to increase the cash-flow of businesses. It could also change the taxation of capital gains, perhaps as proposed in a document accompanying the June 1982 federal budget.[23] Government could also take measures to encourage the development of Canada's stock markets, particularly the secondary market, either through direct intervention or by creating a favourable climate for the securities trade. Finally, government could resort to capital grants or limited equity participation in firms.

Regardless of the method chosen, we believe that government must introduce, without delay, measures designed to increase a firm's equity, since this is where businesses are experiencing their major financing problems. For this reason,

1 We recommend that the federal and provincial governments modify their policies to facilitate the strengthening of the equity base of Canadian firms, particularly small and medium-sized businesses.

This recommendation could serve as a general framework in which business financing agencies would operate. In this respect, it may be noted that many agencies have at present limited equity participations in firms.[24] In future, such participation could assume several forms and it should be accompanied by an agreement limiting government interference in the affairs of the assisted firm, guaranteeing that the firm will use the funds received for purposes compatible with the government's objectives and indicating the conditions for terminating the agreement. Financing might be provided through a purchase of common or preferred shares, accompanied by an exchange of "put" and "call" options, or through the purchase of convertible debentures.[25]

Loans — Within this context, loan programs would become the exception and would be reserved for assistance to the victims of a credit gap. In particular, the choice between a loan and equity participation would not be left to the firm but to the financing agency. Consequently,

2 We recommend that public loans be extended only in cases where there is a strong presumption of the existence of a lending gap. We further recommend that, in such cases, the loans do not incorporate a subsidy.

Tax Relief — Implementation of the above two recommendations would help to reduce the problem

but would not eliminate it. We have seen that direct government involvement in the business finance market accounts for only 4.3 per cent of all institutional financing. Even if all government agencies shifted their activities to equity financing, this would still be insufficient to solve the problems we have described; further action is neccessary. The proposal to set up a Registered Share Investment Plan, introduced by the federal government in its June 1982 budget, is a first step in the right direction. Changes could also be made in our tax laws to make the tax credits for business losses more effective. To this end,

3 We recommend that the shareholders of a corporation that registers losses for which tax credits cannot be obtained immediately be allowed to deduct from their personal taxable income the amount paid by them in a subscription for new shares to cover this deficit.

This recommendation would result in a system similar to that of the subvention payments in the United Kingdom, which have existed since 1953 under provisions in the Income Tax Act. These subvention payments, which are deductible from the personal or corporate taxable income of shareholders, are made to the companies for which tax credits cannot be used immediately. They enable firms to use the tax credits offered by government to finance loss carry-overs and rebuild their equity base. Compared with other financial assistance, the subvention payment has the additional merit of being a check on the management of corporations registering losses by requiring shareholder confidence in the business.

In general, the seriousness and structural nature of the problem warrants another look by government at taxation, regulation, and the structure of the Canadian capital market with a view to increasing corporate equity.

Promoting Economic and Social Development

Up to this point, we have analysed government action in financial markets from the viewpoint of market imperfections. Aside from this corrective role, governments also pursue objectives of job creation, economic growth, and social development. The activities of their financing agencies must therefore be studied in this context as well, assuming the absence of financial market imperfections. In this perspective, the government's aim is to reallocate the resources throughout the economy in order to increase, in the short run, the level of output and, in the long run, the amount of the resources available. We must therefore determine whether the present agencies help to achieve the major economic and social objectives generally stressed in various legislative acts, annual reports, and parliamentary proceedings.

The first step is to question the advisability of using financial instruments to achieve objectives that extend beyond the financial markets and then to analyse the procedures used by agencies to select their clientele and determine the amount of assistance to be granted. Finally, the borrowers themselves must be examined to determine whether their activities are compatible with the achievement of major government goals.

The Choice of Instruments

A subsidy is appropriate when government attempts to alter the behaviour of a company and to induce it to undertake a project that it would not have considered without that intervention. This generally involves projects whose profitability, from a strict economic point of view, is not clearly established but that offer definite social benefits. There are several forms of subsidies: an investment subsidy, which covers a certain portion of the outlay needed to undertake a project; a production subsidy, which involves payment to a firm of a sum of money proportional to the number of units produced; a subsidy incorporated in a loan, a loan guarantee, or the purchase of share capital; and, finally, tax incentives.

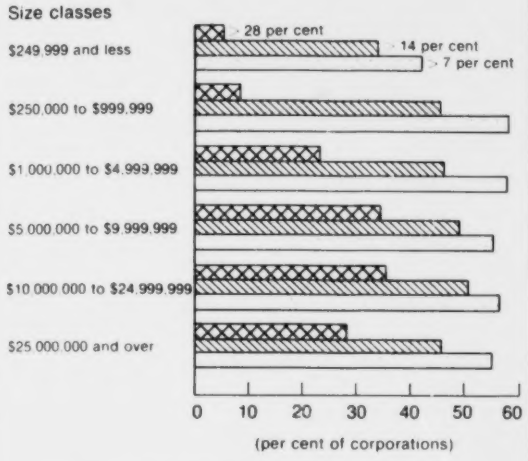
As already mentioned, all programs and agencies incorporate a subsidy in their loans and guarantees. The subsidy rate, defined as the ratio of the subsidy to the amount of the loan, varies from one agency to another, from slightly more than 1 per cent (an average of $575 per borrower per year) for the Federal Business Development Bank to 41 per cent (almost $10,000 per borrower) for Manitoba's Communities Economic Development Fund.

While subsidies are appropriate in the pursuit of economic-development objectives, government must also choose the appropriate instrument for its intervention to be effective. A subsidized loan, a capital grant, or tax incentives are possible candidates. Capital grants given by governments are more important than subsidies incorporated in loans and loan guarantees. In fiscal year 1978/79, they amounted to $295 million.[26] Nearly 80 per cent of this amount was paid by the federal government through programs pursuing objectives related to the general performance of the economy, such as industrial restructuring and the expansion of key industries.[27] It should also be pointed out that firms that receive preferential tax treatment are subsidized, when compared with those that do not receive similar treatment. When we examine what governments drain from the cash flows of businesses by way of

income taxes, we find that the effective rate of taxation increases with the size of the firm (Chart 3-8). Tax exemptions in general, and the small-business deduction in particular, constitute one method of indirectly subsidizing small and medium-sized firms.

Chart 3-8

Ratio of Current Taxes Paid to Cash Flow[1] of All Business Firms, by Size of Assets, Canada, 1977



1 Earnings plus current taxes plus depreciation
SOURCE Gagnon and Papillon, "Canadian Firms"

Thus government has used both financial and nonfinancial instruments to subsidize firms. Which of these instruments is more appropriate? Since we are assuming the absence of market imperfections for the moment, government intervention should, *a priori*, use nonfinancial instruments such as tax incentives. This instrument presents numerous advantages: it affects all businesses in the same impartial way and is relatively inexpensive to deliver, since the administrative mechanism is already in place at both the government and firm levels. But it also has its limitations: first, the behaviour of a company that does not pay taxes cannot be changed by tax incentives; second, tax incentives apply to the entire market. They are therefore not appropriate when public assistance should be firm-specific, that is, when it should be focused on firms that will provide the expected social benefits. To avoid these problems, government may, if necessary, turn to direct grants, loans, loan guarantees, or equity participation. Our analysis reveals that, in such a case, although business firms prefer investment or production subsidies, government maximizes the efficiency of its intervention by subsidizing through limited equity participation or through a convertible loan (Appendix C). It could also subsidize through loans and guarantees, but the analysis of the financial structure of firms already indicate considerable reliance on debt finance. In any event,

4 We recommend that, when a subsidy is deemed necessary, the business financing agencies of government explore ways other than loans and loan guarantees to convey this subsidy.

Selection Procedures

A second condition for efficient government intervention is that the subsidy be channeled to the appropriate clientele. As public agencies and programs simultaneously pursue the objectives of correcting credit gaps and promoting economic and social development, the selection criteria described earlier have been applied to both kinds of intervention. However, the selection criteria currently employed by government agencies are more appropriate for achieving economic and social objectives than for correcting market imperfections. Government may wish to boost the activities of the manufacturing sector or assist in the expansion of small and medium-sized firms, but it must still ensure that the assistance provided will have the desired social effects. Hence the need to go beyond the routine application of selection criteria and to study every application for funds thoroughly.

The study of an application for funds usually includes a detailed look at the characteristics of the project, the curriculum vitae of each senior administrator, and a cost-benefit analysis of both the private benefits and the social impact (decreased unemployment in the area; job gains or losses in surrounding areas). Importance is also attached to the viability criterion; again, the study of this factor must also include an assessment of the project's social benefits. The thoroughness and consistency with which government agencies follow this procedure varies. For example, businesses applying to the Saskatchewan Economic Development Corporation must prove that their project will contribute to economic expansion in the province; the Federal Business Development Bank, on the other hand, places less importance on a project's social impact.

Agencies often stress job creation and protection. For example, the Newfoundland and Labrador

Development Corporation mentions that during the 1979/80 fiscal year it approved financing in the order of $4.6 million, resulting in the creation of 351 full-time jobs. In the same period, the Ontario Development Corporation extended loans amounting to $34.4 million to finance projects that would create 8,281 new jobs over the following five years. It should be noted, however, that job creation or protection is an automatic result of government action that corrects market imperfections. In other circumstances, job creation or protection at the regional or provincial level does not necessarily follow from government financing. The survey of 35 firms referred to above reveals that it is not even certain whether financing has led to job creation at the firm level.

Finally, analyses of applications for funds are generally incomplete, because they do not take into account the social impact of the proposed project. The amount of subsidy incorporated in a loan or loan guarantee is the fortuitous result of the operations of the lending agency rather than of an attempt to have this amount correspond to the difference between social and private benefits. Fully aware that it is difficult to determine accurately the amount of a subsidy required to modify a company's behaviour,

5 We recommend that government agencies refrain from subsidizing businesses unless there is a strong presumption that this will have the desired effects. We also recommend that the subsidy be large enough to be effective but small enough not to exceed the estimated difference between the expected social and private benefits.

Government must indeed ensure that the subsidy will have the desired effect. While this requirement may seem quite obvious, it is not always respected by governments and their financing agencies. A project's merits can be evaluated, for example, by determining whether the jobs created by the subsidy do not simply replace jobs lost elsewhere and whether the subsidized firm would not have undertaken the project financed without this assistance.

Clientele

When government assists businesses to promote growth and social and economic development, one would expect the profile of government agency clients to differ from that of private sector clients with respect to age, size of business, region, industrial sector, and financial structure. Since the project financed with public funds was first deemed unprofitable by private lenders, it automatically differs from the projects normally financed by those lenders. For example, government might wish to assist new small and medium-sized firms that could become viable sometime in the future and eventually become the large firms of tomorrow; or it might wish to support firms that, while unprofitable, are the only source of jobs in a given region; or it might accept higher risks to finance firms whose activities generate more social than private benefits.

The financial profile of the clients of government agencies – which is the same as that described in the previous section, because there is no distinction between clienteles on the basis of the objectives pursued – is not incompatible with the pursuit of general economic objectives. These clients are less profitable firms that generally have a smaller debt load and are more liquid than the private sector clients. Government action is aimed at maximizing the benefits to society as a whole, and the social profitability of public sector clients may offset their lower economic profitability. However, one would have expected government to favour small businesses or infant companies to a greater extent.

At the regional level, the actions of federal agencies seem to be aimed at altering the distribution of resources, because the provincial distribution of loans differs from the distribution of the gross domestic product (Table 3-10). It is noticeable, however, that the provincial distribution of loans differs from agency to agency. More generally, for both levels of government considered together, the provincial distribution of loans, investments, and guarantees to businesses differs from that of investments and the gross domestic product (Table 3-11). The share of government financial assistance received by businesses in Quebec, Saskatchewan, and British Columbia has been relatively greater than the share of these provinces in the gross domestic product and in private-sector investment.

Subsidies incorporated in the loans and guarantees granted by both levels of government have also been unevenly distributed among the provinces. Contrary to the picture presented by the analysis of the provincial distribution of government business financing, Quebec firms appear to have received less than their share of subsidies, compared with the province's contribution to national GDP. Maritime firms, on the other hand, received more than their share. Furthermore, subsidies are part of an attempt by the provinces to outbid each other in order to attract industries. For example, past managers of Industrial Estates Limited have acknowledged that one of their aims is to attract industry to Nova Scotia – which obviously brings them into competition with financing agencies in the other Atlantic provinces – and the experience of Michelin shows that their efforts have met with some success.

Table 3-10

Distribution of the Assistance Extended to Business Firms by Selected Federal Agencies and Programs, and of the Gross Domestic Product, by Province, Canada, 1979

	Loans and investments		Loan guarantees under the Small Businesses Loans Act	Gross domestic product
	Federal Business Development Bank	Enterprise Development Program		
	(Per cent)			
Newfoundland	4.4	0.2	1.2	1.4
Prince Edward Island	0.5	0.1	0.5	0.3
Nova Scotia	3.1	0.1	1.6	2.5
New Brunswick	4.2	0.4	2.8	1.9
Quebec	19.8	16.3	39.7	23.8
Ontario	27.7	61.9	11.8	39.7
Manitoba	2.7	1.5	2.5	3.9
Saskatchewan	2.6	0.8	5.3	3.8
Alberta	10.5	2.6	10.0	11.1
British Columbia	24.5	16.1	24.6	11.6
Total	100.0	100.0	100.0	100.0

SOURCE Annual reports of the agencies and programs; The Conference Board of Canada, *Quarterly Provincial Forecast*, Ottawa, February 1981.

Table 3-11

Distribution of Government Assistance Extended to Business Firms, of the Gross Domestic Product (Manufacturing), and of Private Investment, by Province and Territory, Canada, 1979

	Loans, investments, and loan guarantees[1]			Subsidies incorporated in loans[2]		Gross domestic product (manufacturing)	Private investment
	Loans and investments	Loan guarantees	Total	Cash cost	Social opportunity cost		
	(Per cent)						
Newfoundland	4.3	6.5	4.6	3.6	3.0	0.7	1.6
Prince Edward Island	1.0	0.2	0.9	3.5	1.9	0.1	0.3
Nova Scotia	6.2	4.8	6.0	7.2	7.8	1.6	1.8
New Brunswick	2.6	12.3	3.9	6.4	4.7	1.4	1.8
Quebec	32.7	35.9	33.1	14.6	18.7	27.7	17.5
Ontario	18.1	25.7	19.1	40.6	30.4	50.1	33.9
Manitoba	2.2	1.5	2.1	2.1	2.1	2.6	3.6
Saskatchewan	5.6	1.7	5.1	1.0	1.8	1.1	4.7
Alberta	10.6	2.8	9.6	9.5	10.2	5.2	20.9
British Columbia	16.1	8.6	15.1	11.1	18.6	9.5	12.7
Yukon and Northwest Territories	0.6	--	0.5	0.4	0.8	--	1.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

1 The loans, investments, and loan guarantees of some agencies and programs could not be broken down by province. This is notably the case for loans and investments by the Canada Development Corporation and the Defence Industry Productivity Program, and for loan guarantees by the Federal Business Development Bank and the Department of Regional Economic Expansion.

2 The subsidies incorporated in the loans and investments of some provincial agencies have not been calculated (for the reasons given in Appendix A). This is the case for the Saskatchewan Economic Development Corporation and the Manitoba Development Corporation. The inclusion of both these agencies might alter slightly the regional distribution of subsidies.

SOURCE Appendix B.

In the context of an overall development strategy for Canada, one should question the soundness of such practices. Since the subsidy introduces distortions into the markets, these practices are not only costly, but they also run counter to the principle of free trade between Canadian provinces.

Finally, when an agency attempts to restructure industrial activity within a given area of a province, it might be expected that the industrial distribution of the loans and grants would differ from that of the provincial economy, as reflected, for example, in the industrial distribution of its gross domestic product. It

Table 3-12

Distribution of Loans and Loan Guarantees Extended by Selected Government Agencies and Programs, and of the Provincial Gross Domestic Product, by Industrial Sector, Ontario, 1979

	Federal Business Development Bank	Small Businesses Loans Act	Ontario Development Corporation	Gross domestic product
		(Per cent)		
Agriculture	4.3	-	-	1.7
Other primary industries	0.5	-	-	1.2
Manufacturing	31.8	21.3	95.1	29.1
Transportation and communications	4.1	5.9	4.4	9.2
Trade	24.7	30.1	-	11.4
Construction	4.7	9.1	-	4.3
Services	7.0	33.6	0.5	19.8
Tourism	18.4	-	-	. .
Other	4.5	-	-	23.3
Total	100.0	100.0	100.0	100.0

SOURCE Annual reports of the Federal Business Development Bank and the Small Businesses Loans Act; estimates by the Economic Council of Canada; The Conference Board of Canada, *Quarterly Provincial Forecast*, Ottawa, February 1981.

might also be expected that the various agencies and programs operating in a single area would co-ordinate their activities to pursue similar objectives. Otherwise, a province's industrial structure could remain totally unaffected or could be affected in an undesirable way. While the distribution of loans by industry does, in fact, differ from the industrial structure of the province, it also differs from one agency to another within a given province, which suggests a lack of co-ordination or different objectives.

For example, the Ontario Development Corporation has focused its assistance on Ontario's manufacturing sector, while credit granted under the Small Businesses Loans Act has favoured the services and trade sector.[28] The Federal Business Development Bank, in turn, has concentrated on firms operating in the manufacturing and trade sectors (Table 3-12). A similar picture emerges from a comparison of the Société de développement industriel with these two federal programs in Quebec.

The effectiveness of government activity aimed at altering the industrial structure of a province may therefore be questioned, as the effects of actions of both levels of government do not always go in the same direction. The situation becomes further complicated when two programs under the same government authority are aimed at different structures by assisting firms in different sectors. It also appears that the diversity noted in the distribution of assistance among industrial sectors is the outcome not of a strategy but of a differentiated demand for funds by sector of activity. In order to increase the effectiveness of government intervention aimed at achieving social benefits through financial instruments,

6 We recommend that the federal and provincial governments ensure that departments and government agencies that provide financial assistance to businesses follow a consistent strategy.

In addition,

7 We recommend that governments in Canada avoid efforts to outbid each other in endeavouring to attract industries.

The creation of the Department of Regional Industrial Expansion – which combines under one roof the former Departments of Regional Economic Expansion and of Industry, Trade and Commerce, to co-ordinate regional policies with industrial policies – represents a first step towards integrating the activities of agencies at the same level of government into an overall strategy.

But it must be recognized that there may still remain potential problems in harmonizing the implementation of industrial policies. The federal government and several provinces have stressed that aid programs are widely dispersed and have suggested that a single office be established to deliver assistance funds.

Conclusion

Over the past 40 years, despite some important changes in needs, there has been little change in the objectives pursued or the instruments used by government in its intervention in financial markets to

provide assistance to businesses. Resort to measures better tailored to current needs would increase the effectiveness of government intervention.

A reorientation of government activity in financial markets favouring business equity finance would be a step in the right direction. Taking into account the magnitude of the problem, government should also consider possible changes in taxation and regulation and encourage the development of secondary financial markets.

4 Export Finance

Government credit and credit insurance offered to exporters are essentially an extension of government assistance given to businesses. They represent, however, specific assistance within the framework of programs adapted to the conditions peculiar to international markets. Trade in goods and services between countries has a number of special characteristics. The risks undertaken by the partners in international transactions are generally greater than those faced in domestic trade.[1] And the diversity in trade practices, methods of transport and shipment, and regulations – not to mention language and cultural differences – often calls for specialized services to exporters.

Canadian exporters must also face competition in foreign markets from foreign firms that often benefit from the financial support of their own governments. Like their foreign counterparts, Canadian exporters can take advantage of government assistance programs that complement, or replace in their absence, the services offered by financial institutions in the private sector. With these programs, government seeks to stimulate exports in order to improve Canada's current account balance and also to help create new jobs and expand strategic industries, especially those industries which must compete with foreign industries benefiting from public support at home.

In spite of the importance of exports to the Canadian economy – they accounted for more than one-quarter of the gross national product in 1980 – government assistance to this sector is relatively recent, compared with that given other sectors of the Canadian economy or with the initiatives taken by foreign governments. Aside from ad hoc interventions on behalf of particular goods, such as agricultural or energy-related products, government only entered this area in 1944, when the federal government created the Export Credit Insurance Corporation (ECIC), which later became the Export Development Corporation (EDC). As of December 31, 1980, the loans outstanding granted by the EDC – the country's main public supplier of export credit – amounted to $3.8 billion; the export credit insurance in force totaled $1.7 billion.

In addition, there exist today four provincial agencies – Quebec's Société de développement industriel, the Ontario Development Corporation, the Manitoba Trading Corporation, and the Saskatchewan Agricultural Development Corporation – which are also engaged in the promotion of exports. They have all been created within the last 20 years. The contribution of the provincial agencies is much smaller than that of the EDC, however. The Ontario and Quebec agencies, which are by far the largest of the four, authorized loans amounting to $34.4 million during fiscal 1979/80, compared with the $929 million granted by the EDC.

While the Canadian International Development Agency (CIDA) administers Canada's aid to Third World countries, the lines of credit that it extends to some of them benefit Canadian exporters as well. In 1980, the loans granted by CIDA amounted to almost $250 million. Other, more specialized public agencies and boards – like the Canadian Wheat Board, which promotes exports of Canadian grains – extend lines of credit to foreign buyers to support the sale of their respective products. The Canadian Wheat Board had, in fiscal 1978/79, approximately $1 billion in loans outstanding to foreign buyers. For the most part, however, this is short-term credit, similar in most respects to the trade credit extended by private companies to their customers.

Objectives[2]

The creation of the ECIC grew out of a desire to re-establish Canadian exports on a firm footing by offering incentives to producers. The federal government also sought to promote exports of manufactured and processed products, rather than natural resources, in respect of which Canada has always enjoyed a comparative advantage. In the mid-1950s, there emerged a desire to diversify trade patterns by facilitating the entry of Canadian exporters into new markets. Finally, it was emphasized that export growth had a favourable impact on Canada's trade

balance and on the restructuring of Canadian industry. Special note was taken of the advantages flowing from the economies of large-scale production, the increase in productivity, and the creation of new jobs.[3]

As early as 1944, it was feared that the postwar resumption of export activities might be retarded by the high risks involved in export operations and by the absence of private financial mechanisms to offset such risks. In 1948, the minister of Trade and Commerce, C. D. Howe, said: "My experts assure me that there is no private company in any part of the world doing that kind of business." Twenty years later, the Gibson report, which led to the adoption of the legislation that created the EDC, noted that the chartered banks were not providing all of the financial services required by exporters. The report underlined the banks' hesitancy to lend on collateral represented by export orders from remote and unknown purchasers. It further noted that while the banks focused their activities on short-term credit, there was also an obvious need for long-term credit to finance certain exports. Moreover, the banks provided financing only at floating interest rates, whereas exporters were often required to quote fixed prices. Concern for supplementing the private sector remains in the forefront to the present day.

Finally, there was concern on the part of government that the growth in Canadian exports would be impeded by competition from the export support programs mounted by other countries. Upon introduction of the first bill in 1944, James A. MacKinnon, then minister of Trade and Commerce, noted that at least 18 countries had established export insurance programs. At that time, the need to place Canadian exporters on an equal footing with those in other countries was a major preoccupation of politicians.

The objectives pursued by government with export credit and credit insurance have changed little since the ECIC was first created. The primary goals remain export growth, and diversification of trade patterns and of the range of products exported. These objectives are largely related to the general performance of the economy through their effects on the balance of payments, industrial restructuring, and job creation. The operations of financial markets impinge on these objectives, to the extent that the presence of imperfections can jeopardize their fulfilment.

In this context, the federal government intervened first to remedy the deficiencies in export credit insurance resulting from the existence of uninsurable risks, the absence of adequate information with which to assess the risks, and the high operating costs involved. Subsequently, government intervention was broadened to close the export credit gap identified in the Gibson report. Furthermore, government intervened to enable Canadian exporters to compete with foreign counterparts that received financial assistance from their own governments. To achieve various macroeconomic objectives, Canada attempts to penetrate and firmly establish herself in new foreign markets. To that end, it should not only close potential credit gaps but also adopt a strategy that is attuned to the characteristics of world markets, especially in the presence of foreign export-support programs. All of these objectives are outlined in a 1980 EDC internal discussion paper.[4]

To pursue these objectives, government makes use of two types of financial instrument – namely, credit insurance and direct loans. The first entails risk intermediation associated with private sector financing; the second is a form of intermediation of both risks and funds. Credit insurance is especially important because international trade involves great distances, transborder movements of goods and services, as well as political, sociological, economic, and linguistic differences that can increase the difficulties and the risks faced in such trade.

The Instruments of Intervention

While the objectives of government have changed little over time, the financial instruments that it uses to achieve them have undergone major changes. Until 1961, government intervened solely through the use of credit insurance; since that year, however, the federal government has also extended direct loans. Since 1969, loans outstanding have grown at an annual rate of about 26 per cent, while the credit insurance in force has increased by only 14 per cent per year. By 1973, the amount of loans outstanding exceeded that of the insurance in force.

Credit Insurance

The EDC credit insurance protects Canadian exporters from any default of payment caused by commercial or political factors in the countries where their products are sold. In the case of commercial risks, the EDC insures exporters against insolvency or default by a foreign purchaser, unilateral and arbitrary cancellation of a contract by a foreign purchaser, or additional handling charges resulting from the interruption or diversion of foreign shipments. The EDC political-risk insurance covers exporters against losses caused by blockage of funds; by problems in transferring funds arising from the cancellation or nonrenewal of import or export permits; by war or revolution in the purchaser's country; by war between Canada and the purchaser's country; or by any other political circumstances beyond the control of an exporter or purchaser.

The EDC credit insurance, however, does not cover exchange risks that arise from the delay between the shipment or delivery of merchandise and the actual payment by a foreign customer when the contract is in a foreign currency.[5] An exporter runs this type of risk whenever he extends commercial credit to the importer. No major problem arises if this is short-term commercial credit of a year or less, because institutions and firms can protect themselves by forward exchange operations. The difficulties become more serious when credit is for a long term and the forward market cannot be used to cover the exchange risk. Such problems often arise in the case of trade with developing countries that suffer foreign-exchange shortages and attempt to stretch their import payments over longer terms. These longer terms increase the exchange risk for the exporter when the financing is in a third country's currency.

The EDC credit insurance is provided through several programs (Table 4-1); these differ not in the nature of the risks covered but rather in the time period and the form of insurance coverage. The chief programs are global insurance and specific insurance policies.

Table 4-1

Types of Insurance Programs and Loan Guarantees Offered by the Export Development Corporation, Canada, 1980

	Policies insured	Value
	(Number)	($ Millions)
Insurance programs		
Short-term global		
Shipments	696	1,963.7
Contracts	94	191.2
Services	18	16.5
Medium-term specific transactions	36	281.5
Loan pre-disbursement	37	156.2
Performance security	27	32.0
Consortium	-	-
Surety bond	2	21.0
Foreign investment	2	0.8
Total	912	2,662.9
Bank guarantees		
Medium-term specific transactions	3	18.1
Performance security	17	24.5
Bid security	9	8.0
Total	29	50.6

SOURCE Export Development Corporation, *Annual Report*, 1980 (Ottawa: EDC, 1981).

Global insurance protects exporters from commercial and political risks for a maximum of 180 days. Exporters can choose to insure themselves from the date of shipment of the merchandise, the date on which the contract is signed, or the date on which services begin. They can insure accounts receivable related to all of their exports, provided that the purchasers have been accepted by the EDC and that the insured transactions do not exceed an amount established under the contract. It used to be that exporters had to insure all of their shipments; today, however, they can exclude exports to the United States and to some other countries, provided that the destinations of the insured exports are sufficiently diversified.

Under medium-term specific insurance, exporters can be covered against default of payment on individual orders of equipment sold under credit terms of one to five years. Here, exporters can choose the individual transactions that they wish to insure.

In addition to these two forms of insurance, predisbursement insurance covers the production risk from the date of approval of financing until the date of payment under the terms of the loan agreement; surety insurance covers an exporter against unjustified recall of the letter of credit delivered by a chartered bank; and consortium insurance and surety bond insurance protect an exporter involved in a consortium or a surety bond company from the same type of rick.

Credit insurance is issued in the name of the exporter. The credit covered may be advanced directly by the exporter or financed by his bank. Although a chartered bank may require the exporter to provide proof of credit insurance, this does not constitute direct protection of the bank, because it is the exporter who would benefit in the event of a claim against a purchaser in default.

In addition to its credit insurance programs, the EDC offers guarantees to banks that participate in export finance or that provide exporters with a performance security. These guarantees do not constitute an important activity of the Corporation.

Finally, since the end of 1978, the EDC insurance policies have covered sales quoted not only in Canadian or U.S. dollars but also in 15 other currencies. In the latter cases, the exporter must pay a premium covering the additional risks assumed by the EDC. This procedure should not be confused, however, with exchange risk insurance, since the exporter must still convert the foreign currency received into Canadian funds.

Export Credit

Canadian exporters not only face greater risks than producers selling solely in domestic markets; they

also have greater financial requirements. The mere fact of shipping outside the country increases their need for funds. Delays in delivery caused by greater distances, delays in the transfer of funds caused by political or other factors, the surety bonds required by the purchaser, and the high costs of penetrating foreign markets are all factors that increase an exporter's working capital requirements.

To meet these needs, external financing may take the form of supplier credit extended to the exporter or of purchaser credit extended to the importer. The credit may be short-term (for less than one year), medium-term (for one to five years), or long-term (for more than five years). As a rule, longer-term credit is extended to the foreign purchaser rather than to the Canadian exporter.

The main focus of the EDC is on long-term financing, since 70 per cent of the number, and more than 90 per cent of the value, of authorized loans have a term to maturity of eight to ten years. This financing is generally in the form of purchaser credit extended to governments, public agencies, or private companies, and it applies mainly to purchases of capital goods of Canadian origin. It should be noted that the EDC loans and credit insurance are complementary instruments. Credit insurance mostly covers short-term transactions, while loans have longer-term maturities. The EDC does not insure its own loans.

In addition to extending loans to foreign purchasers, the EDC has, since 1978, opened credit lines to those foreign countries with which a bilateral agreement had been negotiated. These lines of credit are intended to notify Canadian exporters that credit is available and that purchasers in that country are interested in obtaining Canadian goods. The opening of lines of credit is advantageous for Canadian exporters, particularly small or medium-sized firms, because it dispenses with the need to negotiate financing with the importer, along with the other conditions of the export contract.

Furthermore, the Canadian government announced in 1981 that in each of the three subsequent years it would assign $300 million to subsidized loans under a program of "crédit mixte." This is a form of subsidized credit that combines foreign aid with the normal financing of exports in order to establish a particularly low overall interest rate. The use of these special funds is strictly limited to specific projects benefiting from "crédit mixte" abroad.

Parallel credit is a form of export financing that resembles "crédit mixte." In this case, CIDA joins with the EDC to finance a single foreign project through two complementary but separate contracts, one representing aid and the other, normal financing. The CIDA loan to the developing country can be at 3 per cent over 30 years or even zero per cent over 50 years. As previously mentioned, CIDA opens lines of credit to a number of developing countries.

In June 1981, the EDC introduced a new financing procedure called "forfaitage," which consists of the purchasing of promissory notes issued to the order of a Canadian exporter by a foreign purchaser and guaranteed by the latter's bank. This form of financing has numerous advantages for the exporter, as it enables him to extend credit to his customers without having to tie up his working capital. Moreover, he automatically avoids interest and exchange risk and is automatically insured for political risks or the risk of nonpayment of the promissory notes. As the term to maturity of promissory notes can range from two to five years, this measure marks the EDC's entry into medium-term export finance.

The two most important provincial agencies engaged in export finance operate in the short- and medium-term fields. The Société de développement industriel du Québec discounts that part of the accounts receivable from foreign purchasers that is not covered by the line of credit issued by their banks. It also provides, through its exploration loan program, an unsecured loan to manufacturing firms to assist them in exploring new foreign markets. This loan is repaid annually in proportion to the sales completed. The Ontario Development Corporation finances the production and accounts receivable of exporters.

Finally, it should be noted that government export assistance is not limited to financing international transactions and covering the associated risks. The Department of External Affairs, as well as some provincial ministries, offers assistance aimed at exploring new markets; the federal Program of Exploration and Market Development is an example. The penetration of foreign markets requires specialized knowledge; this is often provided by advisers in the Department of Industry, Trade and Commerce, by Canada's commercial attachés abroad, and by the EDC itself.[6] Nevertheless, the use of financial instruments is by far the most important form of government assistance in the export field.

The Correction of Market Imperfections

Because of the special nature of exports and particularly because of the importance of risk intermediation in this area, there are two separate markets that demand our attention – the credit insurance market and the export finance market, both of which may suffer weaknesses that hinder export activities.

The Credit Insurance Market

Only one private company operates in Canada in the field of credit insurance, and its activities are limited to domestic transactions and trade with the United States. American Credit Indemnity, founded in 1893 in the United States and in 1920 in Canada, insures the accounts receivable related to the sale of goods between the two countries. Its main activity, however, involves the insurance of accounts receivable from domestic transactions in either Canada or the United States. Nevertheless, the volume of its insurance of export credits to the United States is much higher than that of the EDC.

It should be noted, however, that exports to the United States usually do not present the difficulties and risks faced by exports to other countries. Because of the proximity of the two countries and their close commercial links, the mechanisms involved in Canadian exports to the United States are very similar to those for domestic trade. This enables Canadian firms to operate in the U.S. market with much the same confidence as in the domestic market.

In the case of trade with countries other than the United States, the EDC has a monopoly in export credit insurance. During 1980, the EDC issued new policies valued at $2.7 billion, or 3.6 per cent of that year's total merchandise exports from Canada ($76 billion). Excluding exports to the United States, the proportion of EDC-covered exports is 9.6 per cent.[7] This is less than the corresponding figures for other industrialized countries. Export risks not insured by the EDC must be covered by the exporter himself.[8]

A review of the export credit insurance systems in force in 17 industrialized countries reveals that government intervenes in one form or another in every case. In three countries – the United States, West Germany, and The Netherlands – export insurance is provided by private firms; in three others it is provided by mixed firms with joint participation by the private and public sectors (Table D-1). When the private sector provides credit insurance, however, government reinsures the risks, especially those of a political nature.

Even in Canada, the private sector has made some attempts to enter this field. In 1978, a group of insurance brokers proposed an insurance program to cover projects undertaken by Canadians abroad, subject to reinsurance by government. Interest in this venture declined, however, when the federal government ruled out the coverage of exchange and inflation risks, as proposed in the original draft. In 1980, the project fell victim to budget cuts; at the same time, new subsidized government loan programs for exporters were put in place. A group of private companies is currently planning to introduce an insurance plan against default of payment by foreign commercial borrowers. The recent establishment of the New York Insurance Exchange, a risk-pooling organization, may facilitate this extended coverage of export credit risks. Finally, the ACI is planning to extend its insurance of accounts receivable to countries other than the United States.

Since the coverage of exports by government credit insurance is relatively low, can the almost total absence of the private sector from this field be explained by some failure or shortcoming in the insurance market, resulting from the existence of uninsurable risks, the high costs of gathering information on foreign purchasers, or the presence of barriers to entry?

Because export contracts are often nonrecurring, it is difficult to make an actuarial calculation of the risks involved in this type of activity and to diversify portfolios – an essential element in providing insurance against risks. Thus one might be led to believe that for a relatively small economy like Canada's, some export risks are uninsurable. But diversification is indeed possible on a worldwide scale. Export credit insurance could be provided in one country by insurance brokers operating on behalf of, or obtaining reinsurance from, groups or consortia of insurance companies operating internationally. And such reinsurance does indeed take place in some areas – casualty insurance, for example. Since exports often have strategic importance for a country, however, government itself may offer reinsurance facilities in order to avoid total dependence on international consortia.

On the other hand, the operating costs for credit insurance in general and for export credit insurance in particular, including the costs of analysing a buyer's financial situation, can represent more than 50 per cent of the premium. For this very reason, the major private insurance companies, including Lloyds of London, have shied away from credit insurance. Furthermore, to enter the insurance field on a scale comparable to that of the EDC, a private company would have to have large amounts of capital in order to honour any claims.

The cost of analysing credit worthiness can be very high. The greater the distance between the purchaser and the shipper, the harder it is to obtain reliable information about the purchaser's financial health and the characteristics of his firm. This is especially true in the case of trade with countries that have no traditional links with Canada, as is often the case with developing countries.

Table 4-2

Average Cost of Insurance Provided by the EDC, Canada, 1971-80

	Value of insured exports (1)	Insurance in force as of December 31 (2)	Premia and fees (3)	Average cost (3)÷(1)	Average cost (3)÷(2)
		($ Millions)		(Per cent)	
1971	392	..	1.7	0.43	..
1972	461	320	1.7	0.37	0.53
1973	539	331	1.9	0.35	0.57
1974	778	402	3.1	0.40	0.77
1975	879	535	3.2	0.36	0.60
1976	1,336	647	3.5	0.34	0.70
1977	1,299	653	5.7	0.44	0.87
1978	2,950	1,428	9.7	0.33	0.68
1979	1,980	1,332	10.4	0.53	0.78
1980	2,583	1,513	11.5	0.45	0.76
Average[1]	...	...	...	0.40	0.70

1 For comparison, the average premia for selected other countries, according to a report by the Export-Import Bank of the United States, were in 1979 France, 0.85 per cent; West Germany, 0.80 per cent; United Kingdom, 0.60 per cent; Italy, 0.50 per cent; and Japan, 0.30 per cent.

SOURCE J. M. Dufour, D. Racette, and A. Raynauld, "Le financement public des exportations," a paper prepared for the Economic Council of Canada, 1981.

The presence of uninsurable risks and excessive information costs would, if confirmed, make credit insurance unprofitable. The fact is, however, that the EDC's credit insurance operations are profitable and that its premium structure is competitive with that in effect in other countries. Since the EDC was established, its revenues from premiums and fees have generally exceeded net expenditures (payments and administrative costs less claims recovered), except for the years 1971 and 1972. In 1979, the Corporation received on average a premium of 52 cents per $100 of insured exports, compared with 80 and 85 cents received by its counterparts in West Germany and France, respectively.

The analysis of EDC activities and practices does not indicate that the Corporation has attempted to overcome shortcomings in the export credit insurance market. The high degree of coverage for exports to Central American and African countries appears to indicate that the EDC intervenes because of high political risks or high costs of collecting information. However, the EDC practice of requesting from the exporter all the information necessary to assess the credit worthiness of customers indicates that the Corporation does not attempt to make up for shortcomings in this area. In this respect, it differs from the ACI, which gathers itself the information needed to perform a credit evaluation of a buyer. This task is comparatively easy, since the ACI deals with U.S. purchasers.

If private financial institutions have hitherto not attempted to penetrate the export credit insurance market, is it possible that the EDC may be an indirect or distant cause? It should be remembered that the Corporation has only recently allowed exporters to insure themselves solely against political risks or to exclude transactions with the United States or certain other countries from their insurance plans. In view of the fact that evidence of the existence of uninsurable risks and constraints imposed by high-entry costs is scanty, we cannot help but question whether the private sector's poor showing in the export credit insurance field is not the result of a historical accident. The ECIC was modeled after the Export Credits Guarantee Department (ECGD) of the United Kingdom, a public agency set up in 1919 as the sole provider of export credit insurance through bank credit guarantees. This contributed to the absence of the private sector, even though that would not have been the original intention.

Since Canada's export credit insurance system is managed on a commercial basis, there is no reason, on the face of it, for the private sector to be excluded. On the contrary, private insurers could provide increased competition in this field, thus ensuring that services were provided at the lowest possible cost. The experience in several exporting countries demonstrates that the private sector can become more involved in credit insurance operations. Steps taken in recent years suggest that Canada's private sector is ready to take on such activities, at least in part. For this reason,

8 We recommend that the Export Development Corporation gradually move towards providing export credit reinsurance, leaving the field of insurance proper to the private sector. We further recommend that the Export Development Corporation serve as the insurer of last resort to close any gaps left by the private sector in the supply of export credit insurance.

While retreating from direct credit insurance, the EDC may have to ensure that private services in this field will develop competitively so that exporters can count on an adequate supply at a reasonable cost. The EDC should assist in the development and maintenance of such a competitive environment, even by intervening directly in the credit insurance field, if necessary.

The Export Finance Market

The private sector is more involved in export finance than in credit insurance. Banks virtually dominate short-term credit, which is involved in 90 per cent of Canada's export transactions. Short-term financing primarily involves supplier credit, while banks finance the exporter's production period, either through lines of credit or inventory loans. The banks also discount promissory notes with a term to maturity of 90 to 180 days. In addition, they provide some purchaser credit by advancing funds to foreign importers of Canadian goods at floating interest rates, with terms to maturity ranging up to several years. More recently, they have begun to offer forfaitage, which involves the discounting of promissory notes accompanying the sale of equipment with a term to maturity of several years. They also administer – as a service to the exporter – letters of credit, issued by the purchaser's bank to guarantee payment, and documentary bills of exchange.

Data on short- and medium-term private export credits are not available. An indirect estimate of the yearly amounts involved can be obtained, however, on the basis of the proportion of exports that receive short-term financing; these amounted to about $68 billion during 1980, with about $15 billion outstanding at the end of the year.

Finally, international transactions of $100 million were financed in 1980 by a few specialized institutions known as confirming houses through lines of credit at fixed or floating interest rates, with terms to maturity ranging from 30 days to five years. The exporter is paid upon the shipment of the goods, with these institutions assuming the commercial, political, and exchange risks. The EDC provides 90 per cent insurance coverage for these lines of credit.

The longer-term financing of exports is largely dominated by the EDC. In 1980, it authorized loans for $929 million, and its loans outstanding at the end of the year amounted to $3.8 billion. The EDC has attempted to involve the private sector in its long-term financing activities. For example, whenever possible, the EDC limits its financing to only 70 per cent of the total amount of a transaction. The purchaser is expected to make an initial down-payment of 15 per cent, and private financial institutions are expected to provide the other 15 per cent.

Private-sector institutions can participate in three ways: through the direct participation of a bank in an EDC loan, with or without recourse against the EDC; through a joint loan with the EDC, with or without a financial guarantee provided by the EDC; or through a parallel loan on the same project, with separate arrangements, with or without a guarantee. In the latter case, for example, a chartered bank may hold the shorter-term obligations (one to five years) at floating interest rates, while the EDC takes on the longer terms at fixed interest rates. Between 1972 and 1979, bank loans accompanying EDC financing rose from $6.7 million to $625 million (Table 4-3). The sharp drop in 1980 can be attributed to the sudden rise in interest rates. Chartered banks also participate in long-term export financing through either individual or syndicated loans, most of which are extended to foreign governments or their agencies. Nonetheless, private-sector involvement in long-term finance remains relatively small.

Table 4-3

Bank Participation in EDC Loans, Canada, 1972-80

	Direct bank participation[1]	Other related bank loans[2]	Total
	($ Thousands)		
1972	6,654	–	6,654
1973	35,000	–	35,000
1974	14,926	49,940	64,866
1975	5,260	195,643	200,903
1976	109,786	76,296	186,082
1977	62,872	51,938	114,810
1978	268,088	532,142	800,230
1979	252,237	372,278	624,515
1980	5,057	72,256	77,313

1 Direct bank participation in the EDC financing of a project, with or without recourse.

2 Parallel financing of an EDC-supported project but independent from the EDC financing.

SOURCE Dufour, Racette, and Raynauld, "Le financement public des exportations."

Evidence of widespread deficiencies in the Canadian export finance market is hard to find. The division of the market between the private and public

sectors does not necessarily prove the existence of any gaps. But there may be credit gaps affecting some specific transactions. One has then to look for factors that may cause these limited market failures, such as insufficient competition, barriers to the gathering of information, or the presence of externalities and public goods.

The absence of a network of branches of Canadian banks in certain parts of the world to which Canada exports – in West African francophone countries, for example – does not facilitate the private financing of Canadian exports to these regions. Among other things, it hinders the gathering of information on foreign purchasers. The entrance of foreign banks into Canada will facilitate contacts between Canadian exporters and foreign buyers, as well as the gathering of information about the credit worthiness of purchasers of Canadian goods; however, it will probably not fully compensate for the absence of Canadian banks in these regions.

In the past, insufficient participation on the part of the private sector in the export finance market could have been caused by a lack of competition between banks. Recent moves by the banks to create specialized services indicate, however, that they intend to play a greater role in this area in the future. In fact, Canadian banks are showing a growing interest in international activities; four of Canada's major banks have more than one-third of their assets invested in foreign-currency loans or securities. The rapid growth in profits from international activities in recent years may explain, in part, the growing dynamism of banks in this area. Although their international activities are generally not related to export finance, they may eventually lead to increased bank involvement in this field. Moreover, the growing role of foreign banks in Canada is likely to lead to increased competition, which in turn may contribute to increased participation by banks in export finance.

Since information on potential customers is a public good, the gathering of information may be a third source of market failure with respect to export finance. By the very fact that a bank agrees to make loans to a particular foreign firm or government, it announces to the whole financial community that it considers this firm or country to be a "good risk." This is an invitation for other banks to make competing bids. But the bank's decision is based on information that has cost it money. If the bank cannot secure an adequate volume of business from this customer, the information-gathering process will have been an unprofitable operation. The difficulty in maintaining proprietorship, therefore, could act as a disincentive to information gathering. The EDC, however, could play a useful supporting role by signaling to the private sector, through its loan and insurance activities, where the good risks lie, thus opening up opportunities for private institutions.

In short, while it cannot be concluded that there is a generalized credit gap in export finance, neither can the existence of problems affecting some specific transactions be ruled out. Hence there may be some justification for involving the EDC in financing exports.

An examination of EDC activities, however, does not show that its credit operations are expressly directed towards the correction of market weaknesses. There are indeed some indications that the Corporation is more active than chartered banks in some areas of the world. An analysis of the geographical distribution of the foreign-currency assets of the five large Canadian banks who publish such information[9] shows that, in 1980, 60 per cent of these assets were invested in developed countries, particularly Europe and the United States, whereas about 2 per cent were invested in African and Middle Eastern countries. The corresponding shares for EDC loans were 45.0 and 19.2 per cent, respectively. It may well be that EDC participation in the financing of exports destined for Africa (Table 4-8) represents an attempt to mitigate the problems in gathering information on buyers located in these countries, in view of the lack of a sufficient presence of Canadian banks in this area. It may well have been aimed at matching foreign support programs for exports to Africa.

The analysis of the eligibility criteria for EDC financing shows that, whereas the viability criterion – the most important one – is compatible with the corrective role attributed to the Corporation, the EDC's reliance on exporters for the information necessary is incompatible with such a role. The second most important eligibility criterion relates to the benefits obtained by Canada subsequent to the public financing of the export transaction. The EDC then takes into consideration the Canadian content of exported goods and the number of jobs created or saved by the exporting activity. It also attempts to determine the likelihood that the exporter will lose a contract in the absence of public financing support. Here the EDC's aim is to meet foreign competition. Finally, the EDC will consider an offer of financial support to a project, even in the absence of competition from foreign countries, if it believes that such assistance will open new market outlets for Canadian products. It goes without saying that all of these criteria are related to concerns with the promotion of general economic growth rather than with the improvement of financial-market operations in Canada. On the other hand, the credit gap that the EDC is attempting to fill may be abroad rather than in Canada.

Finally, EDC long-term loans at fixed interest rates, which are often below the prevailing market rates, are not appropriate to fill credit gaps. In 1978, these indirect subsidies amounted to $3.3 million based on the cash cost of funds or $117.8 million based on their social opportunity cost (see Appendix A). This practice has contributed to keeping the private sector away from long-term finance. But it may have been dictated by the pursuit of other objectives, such as those discussed in later sections.

Apart from those cases where the existence of a credit gap may justify unsubsidized government intervention, there is no compelling reason why long-term export loans should be the exclusive domain of government. Moreover, the absence of the private sector from this field is perhaps better explained by the structure of public export assistance. Canada is perhaps the country with the least private-sector participation in export financing decisions. The governments of most other industrial nations encourage bank participation in this area, more so than does the government of Canada. In six of the industrialized countries examined, the supply of primary financing is left completely in the hands of the private sector, which may, however, resort to public rediscounting facilities (Table D-1). In most of the 17 countries studied, the negotiations for granting export credit are also left to the private sector. This is not the case in Canada, where direct negotiations take place between the EDC and the foreign buyer. When the banks are invited to participate jointly with the EDC in long-term financing, they often complain of being denied access to all the information and to the negotiations, and of being presented with ready-made proposals.

Given the absence of generalized credit gaps and recognizing that specific gaps may remain,

9 We recommend that the Export Development Corporation continue to provide direct financing for Canadian sales abroad when there is reason to believe that the private sector is unable to provide the required credits. Public financing should be made available only under terms and conditions commensurate with the risks involved and the costs of such assistance – including the opportunity cost of the funds used – except in those cases where it is deemed necessary to take into consideration the export-support programs of other countries.

Following the spirit of this recommendation, the EDC would partially withdraw from direct export finance, except when a credit gap would have been found. At the same time, the private sector should be encouraged to become more active in long-term export finance. Canadian chartered banks should be invited to increase their presence in markets where Canadian exports may be promoted. The development of guarantee and refinancing facilities would constitute another form of encouragement to the private sector.

10 We further recommend that the Export Development Corporation's gradual withdrawal from most direct-lending activities be accompanied by an increased concentration of its efforts in the field of credit insurance and bank guarantees. The Corporation should also stand ready to provide refinancing facilities for private lending institutions engaged in export finance.

The Promotion of Economic Development

As previously pointed out, government intervenes in export credit markets not only to close potential credit gaps but also to achieve four major macroeconomic objectives that extend well beyond these markets: the promotion of exports and the diversification of trade patterns and goods exported to improve the balance of trade; the promotion of industrial restructuring; job creation; and the enhancement of the capacity of Canadian firms to penetrate foreign markets.

While public loans can contribute to the growth of exports when market deficiencies exist, the link between financing and export growth is much weaker in the absence of such deficiencies. Indeed, credit is only one factor determining the level of Canadian exports. Another factor is the comparative advantage of Canadian exports in terms of price and quality. The exporter's ability to deliver his goods on time and to provide after-sales service promptly and efficiently also comes into play. The ability to gather information on the credit worthiness and market skills of the buyer is a further consideration. Finally, cultural and political links are additional important elements.

Financing on preferential conditions can help to lower the total cost of goods to the purchaser. The cost of credit, however, is a factor that generally becomes important only in the last stages of export contract negotiations. Indeed, if an exporter cannot supply a quality product at a competitive price, he will not get beyond the first stages of negotiation. Financing conditions can, however, become critical if several competitors present very close offers. Since export financing usually takes the form of long-term credit, the buyer will then consider his cost in the light of a possible appreciation, during the pay-off period, of the currency in which the loan is offered. Hence, seen from this perspective, export credit is not the paramount factor in most cases.

The mere fact that subsidized export credit is available from a public agency may encourage

exporters to ask for assistance, even if it is not absolutely necessary to close a deal. Therefore, managers of government export credit programs should be careful to identify the projects for which subsidized financing is actually needed. Moreover, if the buyer wishes to negotiate the price and specifications of the product separately from the financing conditions, he will deprive the exporter of an opportunity to trade off easier financing conditions for higher product prices. In fact, when negotiations cover all the aspects of a transaction, the cost of credit concessions can be recovered by increasing the price of the product. In this respect, it is important to note that the EDC's position as a monopoly enables it to indirectly force the exporter to make such a trade-off because, in exchange for easy credit, the Corporation bills him for financing and service charges. These charges vary from one exporter to another and are set in relation to what the market is ready to bear. The financing and service charges levied on the exporter will usually be passed on through an increase in the price of his product, if the exporter is careful to consult with the EDC before undertaking negotiations with the buyer. As a result, the advantage that the foreign purchaser acquires from subsidized financing may, to some extent, be offset by the higher price of the product. If the charges are set discriminatingly, the foreign buyer is left with only the amount of subsidy instrumental to the deal.

Despite these caveats, subsidized financing can help to increase the volume of Canadian exports, particularly if other favourable factors are at play, such as a comparative advantage for the Canadian product. Thus, through subsidized credit, government may achieve its objective of export growth. But this goal is not generally pursued for its own sake, because export promotion is considered more as a means by which to reduce Canada's current account deficit and its foreign debt or to encourage industrial restructuring and job creation.

The Effect on the Current Account Deficit

Let us first consider the contribution of subsidized export credit towards decreasing Canada's current account deficit. The subsidy is equivalent to a reduction in the price of the exported product. For this reduction to result in an increased value of exports, it must induce a large increase in the quantity exported. Studies[10] of the responsiveness of the quantity of exports to price changes indicate that a small reduction in price can result in a large increase in volume; hence subsidies can effectively increase export proceeds.

Although the immediate effect of subsidies on the balance of merchandise trade is favourable, there are indirect, second-round effects that may tend to reduce this initial impact. First and foremost, the subsidy is usually not transmitted in its entirety to the foreign buyer. Given the resulting increase in demand, a producer contending with an inelastic supply of inputs may be forced to pay more for these in order to increase his level of production. This leads to an increase in the product price, and the effective subsidy to the foreign buyer is thus reduced, with the difference going to the suppliers of the inputs. The subsidy may also lead to an increased flow of dividend or interest payments abroad, if foreign capital is being used in production for export. Moreover, it can lead to an increase in the imports of intermediary products used in the production of export goods. Other indirect effects may take place through exchange rate variations brought about by the initial impact of an increase in exports in a flexible exchange-rate system. These second-round effects reduce the total effect to something less than the first-round impact of subsidized credit on the current account balance.[11]

Trade Diversification

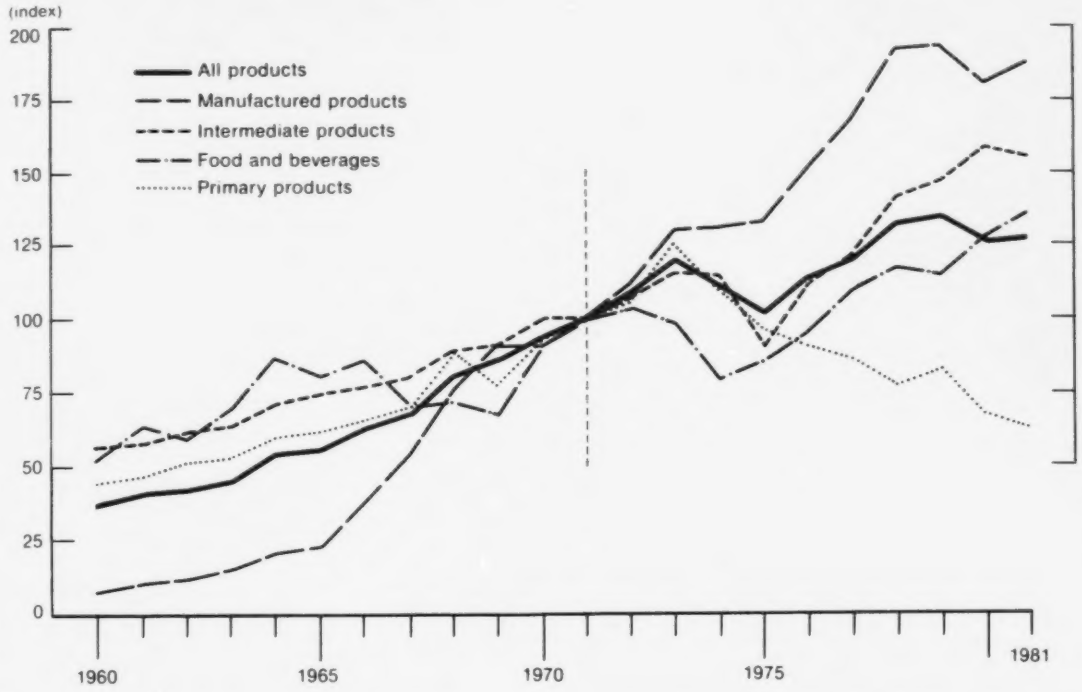
The composition of Canadian exports by product has been marked by a rapid growth, over the last 20 years, of manufactured goods and a decrease in primary products over the last eight years (Chart 4-1). The first stems mainly from the Canada-United States Automotive Products Agreement, while the second is in part a result of measures designed to reduce exports of hydrocarbons. Disregarding these two phenomena, the distribution, by product category, of the value of other Canadian exports remains virtually unchanged. It would thus appear that major structural shocks are needed to change the composition of exports.

By limiting its financing to the export of capital goods, the EDC has nevertheless contributed to the growth of exports of manufactured products. As far as insurance is concerned, although half of the credit insurance issued by the EDC is related to forest, mineral, metal, and chemical products (Table 4-4) insurance coverage for these exports amounts to only 3 per cent, whereas that of industrial and farm machinery is 50 per cent. Does this indicate an attempt to diversify Canadian exports? Our analysis of the methods and criteria used by the EDC would have us believe otherwise.

The promotion of exports is also designed to diversify Canadian trade patterns. Between 1968 and 1981, the share of the United Kingdom in total Canadian exports declined; that of the United States held steady, and that of Commonwealth, francophone African, and Latin American countries

Chart 4-1

Growth of Canadian Exports, by Category, 1960-81[1]



1 In 1971 constant dollars. Volumes are calculated using Laspeyres fixed weighted price indexes on total values.

SOURCE Data from Statistics Canada, Department of Industry, Trade and Commerce, *Canada's Trade Performance, 1960-1977*, Vol. I (October 1978), Department of Industry, Trade and Commerce, International Trade Data Bank.

Table 4-4

Distribution of Canadian Exports Insured by the EDC, by Category, 1969-80

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
						(Per cent)						
Forestry products	33.0	23.6	32.1	35.3	35.3	34.0	39.2	30.9	35.4	20.0	34.2	38.2
Other manufactured products	12.3	7.5	8.0	13.1	13.5	7.1	8.6	18.8	13.6	8.2	12.0	6.2
Agricultural and animal products	9.0	23.5	22.8	13.5	10.7	21.4	9.4	3.5	13.1	2.2	2.5	2.5
Services	0.6	1.2	0.6	0.8	1.3	2.2	7.0	11.6	10.1	32.6	7.3	9.7
Machinery	9.4	6.1	5.9	6.0	6.9	6.9	9.6	10.2	9.4	7.3	22.4	7.7
Minerals, metals and chemicals	21.4	16.5	15.4	17.5	20.1	16.3	14.7	12.3	8.5	4.2	9.9	20.8
Transportation equipment	2.1	14.8	6.6	3.9	5.6	6.7	[illegible]	8.9	3.7	9.4	5.9	6.6
Textiles, related products and consumer goods	9.8	5.5	7.5	8.5	4.4	3.1	3.2	2.8	3.7	1.1	3.4	3.7
Electronic equipment	2.4	1.3	1.1	1.4	2.2	2.3	1.2	1.0	2.5	15.0	2.4	4.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

SOURCE Dufour, Racette, and Raynauld, "Le financement public des exportations."

Table 4-5

Distribution of Canadian Exports, by Destination, 1968-81

	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
							(Per cent)							
United States	67.9	70.9	64.8	67.5	69.3	67.4	66.0	65.1	67.3	69.8	70.3	67.8	63.3	66.2
United Kingdom	9.0	7.5	8.9	7.8	6.9	6.3	5.9	5.5	4.9	4.4	3.8	4.0	4.3	4.0
Other EEC	5.6	5.8	7.2	6.2	5.7	6.2	6.7	7.2	7.0	6.2	5.6	7.1	8.3	6.6
Other Europe	2.5	1.7	2.9	2.7	2.5	2.4	2.6	2.5	2.2	2.2	2.0	2.4	3.0	2.4
Japan	4.4	4.2	4.8	4.7	4.8	7.1	6.9	6.4	6.2	5.7	5.8	6.2	5.7	5.4
USSR and China	1.8	1.5	1.5	1.9	2.7	2.3	1.5	2.4	1.9	1.6	2.0	2.1	3.2	3.4
Middle East	0.4	0.5	0.8	0.8	0.6	0.7	1.0	1.5	1.5	1.5	1.5	1.3	1.5	1.9
Other Asia	1.9	1.6	2.0	2.0	1.6	2.0	2.1	2.4	1.9	2.0	2.4	2.3	2.9	2.4
Central and South America, Antilles	4.0	4.1	4.5	4.2	4.0	3.6	4.8	4.8	4.6	4.4	4.6	4.4	5.3	5.0
Africa	0.8	0.8	1.0	0.9	0.8	0.7	1.2	1.3	1.1	1.1	1.1	1.2	1.4	1.5
Other countries	1.7	1.4	1.6	1.3	1.1	1.3	1.3	0.9	1.4	1.1	0.9	1.2	1.1	1.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

SOURCE Based on data from Statistics Canada.

increased (Table 4-5). The distribution of EDC export credit and credit insurance according to destination differs from that for exports, however.

Whereas EDC credit insurance covers exports to many countries (Table 4-6), the proportion of the exports to the United States that are insured is very low, while that of sales to African, Middle Eastern, and Central American countries is quite high (Table 4-7). As noted above, sales to the United States are comparable in most respects to domestic sales; thus they do not entail much risk.

The distribution of EDC loans according to destination varies frequently from year to year (Table 4-8), reflecting the influence of a few important turn-key projects.[12] For example, the granting of credit to Romania for the prospective sale of Candu reactors accounts for the higher figures for Eastern Europe in 1979. Despite these year-to-year variations, the regional distribution of loans differs from that for exports. For instance, in 1980, exports to Africa and Latin America benefited most from EDC financing, although they represented only a small proportion of total exports.

Table 4-6

Distribution of EDC-Insured Exports, by Destination, Canada, 1969-80

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
							(Per cent)					
United States and Mexico	10.7	9.0	14.7	14.8	13.9	11.7	9.0	10.9	7.3	7.6	15.7	13.1
Central and South America, Antilles	29.2	36.2	29.1	24.0	22.7	20.8	20.7	13.1	15.0	3.6*	7.5*	10.7
Asia	8.3	5.4	10.3	6.6	6.2	5.4	9.4	8.9	9.4	8.6	12.3	9.8
Middle East	2.0	11.6	5.3	4.4	5.1	5.0	7.5	8.4	8.2	46.3**	5.7	6.3
Europe	36.5	28.4	30.0	42.4	43.2	36.4	42.8	38.3	39.1	29.3	50.9	44.0
Africa	4.2	3.5	4.1	2.2	2.3	14.8	5.5	16.8	16.9	4.6	7.9	10.7
Oceania	9.1	5.9	6.5	5.6	6.6	5.9	5.1	3.6	4.1	...***	...***	5.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

*Excludes figures for Central America and Antilles, which are included in the figures for the United States and Mexico.
**This exceptional share is attributable to two large projects in Saudi Arabia.
***Included in Asia.
SOURCE Dufour, Racette, and Raynauld, "Le financement public des exportations."

Table 4-7

Distribution of Total Canadian Exports and of EDC-Insured Exports, and Insurance Coverage Ratio, by Destination, 1980

	Total exports	EDC-insured exports	Insurance coverage ratio[1]
		(Per cent)	
United States and Mexico	64.0	13.1	0.7
Central and South America, Antilles	4.6	10.7	18.0
Asia	9.8	9.8	3.5
Middle East	1.5	10.8	25.4
Eastern Europe	2.8	1.7	2.2
Western Europe	14.8	39.0	9.3
Africa	1.4	9.5	23.8
Oceania	1.1	5.4	18.0
All destinations	100.0	100.0	3.5

1 EDC-insured exports as a proportion of total exports (in dollar amounts).

SOURCE Dufour, Racette, and Raynauld, "Le financement public des exportations."

It should be noted that the regional distribution of EDC loans and credit insurance is not the result of a deliberate move on the part of the EDC nor an attempt on its part to modify Canada's trade patterns directly. But even if that were so, there is reason to believe that such action would probably not achieve important results anyway. Trade flows often depend on cultural and political ties that have developed between countries over many years. Currency areas that existed earlier in the century – like the sterling area, the franc area, the florin area, and so on – have left durable imprints on trade relations. For instance, France is the major source of all export credits for goods purchased by Niger (90 per cent), Congo Republic (88 per cent), Cameroon (79 per cent), Morocco (72 per cent), Mauritania (72 per cent), Tunisia (70 per cent), and Gabon (69 per cent), all of which are former French colonies. In our report on Canadian aid to developing countries we have already alluded to the importance of such links.[13]

Canadian exports as a share of the imports of the other member countries of the Organisation for Economic Co-operation and Development (OECD) declined between 1962 and 1980 from 5.9 to 4.1 per cent, while the Canadian share of OECD exports to nonmember and developing countries remained unchanged (Chart 4-2). These trends are stronger with respect to manufactured goods. A recent EDC study notes that Canada's share in the international export market for the main capital goods fell from 3.2 per cent in 1970 to about 2 per cent a decade later. The authors added that "Canada has not been able to establish a significant presence worldwide in many product categories. In fact, the data imply Canada is becoming an increasingly marginal supplier in even those areas in which it previously enjoyed a substantial role."[14] In view of these facts and given that most OECD countries subsidize their export credits, the question arises whether public subsidies help to increase Canada's share of the world export market and whether Canada's performance would have been worse without them.

Economies of Scale, Job Creation, and Subsidies

This question becomes even more important in view of the EDC hope that credit subsidies will assist Canadian firms in finding new outlets for their products. The domestic market may be too small to

Table 4-8

Distribution of EDC Loan Authorizations, by Destination, Canada, 1969-80

	969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
							(Per cent)					
United States and Mexico	27.4	15.9	–	8.6	20.5	2.9	8.8	–	0.7	3.7	7.7	33.5
Central and South America, Antilles	8.1	26.3	7.8	48.0	33.8	47.5	31.2	26.0	6.3	3.8	12.6	15.3
Asia	37.7	4.9	2.1	4.0	5.0	2.8	30.1	28.7	5.3	0.5	11.8	15.9
Middle East	–	23.9	31.3	10.9	8.1	14.5	16.0	0.2	23.4	1.3	–	3.6
Eastern Europe	14.5	9.1	2.2	21.9	1.3	2.8	4.7	19.8	47.2	37.4	60.8	3.8
Western Europe	12.3	19.9	48.3	4.7	12.9	8.0	3.6	7.4	1.9	0.8	2.4	11.5
Africa	–	–	1.2	1.9	18.4	14.2	5.5	17.7	14.6	52.5	3.6	15.6
Oceania	–	–	7.1	–	–	7.3	0.1	0.2	0.6	–	1.1	0.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

SOURCE Dufour, Racette, and Raynauld, "Le financement public des exportations."

Table 4-9

Distribution of Total Canadian Exports and of EDC-Financed Exports, and Financing Coverage Ratio, by Destination, 1980

	Total exports	EDC-financed exports	Financing coverage ratio[1]
		(Per cent)	
United States and Mexico	64.0	33.5	0.6
Central and South America, Antilles	4.6	15.3	4.1
Asia	9.8	15.9	2.0
Middle East	1.5	3.6	2.9
Eastern Europe	2.8	3.8	1.6
Western Europe	14.8	11.5	0.9
Africa	1.4	15.6	13.5
Oceania	1.1	0.8	0.9
All destinations	100.0	100.0	1.2

1 EDC-financed export as a proportion of total exports (in dollar amounts).

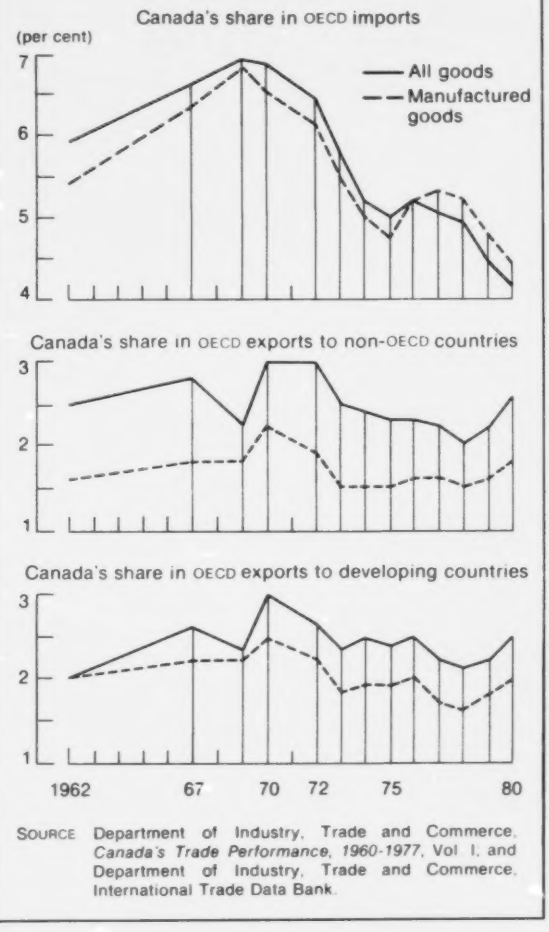
SOURCE Dufour, Racette, and Raynauld, "Le financement public des exportations."

enable some firms to benefit from economies of scale; in such a context, subsidies could help them to find new markets abroad and raise their level of production. Once established in these new markets, these firms would no longer need government assistance. This is the theory of import tariff protection of an infant industry, transposed to assistance given through export subsidies. Others assert that Canadian firms, particularly engineering firms participating in turn-key projects, do not have a financial base large enough to undertake large ventures abroad or to assume all of the risks involved.[15]

In both instances, government assistance should be of a temporary nature. But each year, as time goes by, the names of the firms receiving assistance from the EDC become more and more familiar. Sixteen companies received half of the 138 loans authorized by the EDC between 1969 and 1980; one of them received 40. One Crown corporation, Atomic Energy of Canada Limited (AECL), which led groups of exporters in negotiations of turn-key projects related to the sale of Candu nuclear reactors, received 25 per cent of all the financing authorized by the EDC during that period. Overall, six companies received half of the total value of the loans authorized by the Corporation during those years. Leaving aside AECL, the number of companies that received half of the total amount of loans authorized over the period is 19 – still a small figure. Could it be that these exporters have not yet reached maturity? One is rather tempted to believe that, for these firms, the subsidy has become a form of permanent assistance.

Chart 4-2

Canada's Share in OECD Imports and Exports to Selected Countries, 1962-80



SOURCE Department of Industry, Trade and Commerce, *Canada's Trade Performance, 1960-1977*, Vol. I, and Department of Industry, Trade and Commerce, International Trade Data Bank.

Moreover, it may be concluded from an analysis conducted by the EDC that although subsidized credit may have an effect on export growth, it is not the potent instrument that governments believe it to be.[16] The study shows that the market shares of six industrial countries in world exports benefiting from official support programs and in world exports sold at market conditions had moved in the same direction over the years. Japan, France, and Switzerland had registered significant gains with respect to both capital goods (which benefit from public support) and other manufactured goods (which do not). The United States, the United Kingdom, Canada, and Italy had all lost their market shares in respect of both groups of exports.

Finally, the Canadian government also seeks to promote job creation with subsidized export credits. It is not by any means clear, however, that this instrument should, for this purpose, be preferred to an increase in government spending (see Appendix E). Even the Canadian-content rule imposed by the EDC – namely, that it will not finance or insure exports of products that have a Canadian input of less than 60 per cent – does not have much effect because of the small proportion of exports financed or insured by the Corporation.

In summary, the gains from subsidized assistance aimed at achieving macroeconomic objectives, considered in isolation from other goals and from the world environment in which the export activity takes place, are rather small and diffuse. Resources are diverted to produce export goods and to pay for the subsidy. Are the benefits worth the costs? With respect to the objectives related to the functioning of financial markets or to the general performance of the economy, the answer would probably be negative. But another important element – namely, the world environment in which the major trading countries support their export activities with subsidized credit – must also be considered before reaching a definitive overall conclusion.

Matching Foreign Export Assistance Programs

Export contracts, especially those related to capital goods and turn-key projects, are negotiated on an individual basis in a very competitive environment. In the export credit market, the firm-specific nature of loans, especially subsidized loans, takes on a particular significance. Decisions about offering subsidized credit and about the amount of subsidy to be given are made for each transaction, and they depend on what exporters from other countries are offering.

One EDC objective is to match the subsidy programs of other exporting countries in order to make Canadian exports more competitive with foreign goods. The support offered by Canada, however, is much less than that offered by most major industrialized countries.

An examination of the exports benefiting from government support as a proportion of total exports reveals that, although this share varies from year to year, Canadian support lags behind that offered by France, the United Kingdom, Japan, and even the United States, which, until recently, had refused to enter the export credit subsidy war. The EDC support varies from 5 to 6 per cent of total Canadian exports, whereas the comparable figures are 39 to 48 per cent for France, 38 to 45 per cent for the United Kingdom, and 25 to 49 per cent for Japan.

The differences in levels of support between Canada and these three countries may result, at least in part, from differences in the composition of their exports. When the smaller weight of manufactured goods in Canada's foreign trade is taken into account, one would think that the assistance offered by the EDC would assume greater importance; in fact, however, Canada still lags behind, even when only those export products most likely to receive government assistance are considered (Table D-3). Only about 6 per cent of such exports receive public support in Canada, compared with 33 per cent in France and 24 per cent in the United Kingdom. The same applies when considering net support, which is the difference between export assistance given by a country and assistance given to the goods it purchases on foreign markets. For example, as of December 31, 1980, the amount outstanding of foreign government loans related to OECD exports to Canada amounted to $US 1,172 million (Table 4-10). At the same time, outstanding EDC credit pertaining to Canadian exports to other OECD countries totaled $US 3,749 million. The difference ($US 2,577 million) represents the net credit support given by Canada to its international trade.

As of December 31, 1980, France led, with net assistance of $US 52 billion, followed by the United Kingdom, West Germany, Japan, and the United States. Canada, by contrast, provided net assistance of only $US 2.6 billion (Table D-3). These numbers clearly indicate that Canada does not belong in the same league. Canada gives proportionately less assistance per dollar of exports than the other major industrialized countries and receives comparatively more on imports originating in those countries. The variety of Canadian export assistance programs is also smaller. For example, unlike France, West Germany, and Japan, Canada does not provide insurance against foreign-exchange risks. Neither does Canada provide insurance against cost overruns to protect its exporters – especially those of capital goods – against unexpected production-cost increases at home or unanticipated assembly-cost escalations in the buyer's country. France, West Germany, and the United Kingdom insure their exporters against cost overruns attributable to inflation. This insurance allows exporters to submit fixed-cost bids without inflation adjustment clauses, which gives them an important advantage.

A comparison of interest rates charged by the major industrialized countries for their export loans

Table 4-10

Publicly Supported Export Credit Outstanding, with a Term to Maturity Greater than 1 Year, Selected OECD Countries, December 31, 1980

	Debtor							
	Canada	France	Japan	United Kingdom	United States	West Germany	Other	Total
	(U.S. $ millions)							
Creditor								
Canada	–	15	3	20	293	–	3,418	3,749
France	16	–	183	581	559	20	51,470	52,829
Japan	41	6	–	349	754	–	32,046	33,196
United Kingdom	487	174	102	–	2,421	78	39,033	42,295
United States	621	391	690	960	–	72	23,707	26,441
West Germany	2	8	8	167	209	–	38,988	39,382
Other	5	32	7	113	38	89	37,341	37,625
Total	1,172	626	993	2,190	4,274	259	226,003	235,517

SOURCE Based on data from the OECD.

and loan guarantees seems, at first sight, to indicate that Canada has a more conservative approach than its main competitors. In 1977, EDC loans appear to have cost more than those offered by comparable foreign agencies.[17] Since Canada no longer publicly discloses the rates charged on transactions financed by the EDC, it is difficult to make a comparison of more recent data. Data published by the Banker Research Unit of London suggest, however, that, as of mid-September 1981, the financing costs of Canadian exports without EDC support varied between 19 and 20 per cent, while the costs for exports with EDC support fluctuated between 12 and 14 per cent. This should be compared with rates of 8 per cent for France, 13 to 13.5 per cent for the United States, 8 to 9 per cent for Japan, and 11.3 to 12 per cent for West Germany.

It is also necessary to take into account the terms to maturity of loans in such comparisons. According to the EDC, the terms to maturity of its loans are longer than those of its competitors. This serves to offset the apparently higher interest rates, since these are fixed throughout the loan period. In addition, financial markets differ from one country to another, as do the effective interest rates in each. As of the third quarter of 1981, government bond yields were 17.2 per cent in Canada, 16.6 per cent in France, 14.5 per cent in the United States, 11 per cent in West Germany, and 9 per cent in Japan. Public export assistance is often offered in different currencies – in that of either the exporting or importing country, in U.S. dollars, or even in Swiss francs. The cost of funds to the public lending agency will thus vary, depending on the currency of the loan. The cost of the loan to the foreign borrower will also depend on the appreciation or depreciation, over the life of the loan, of the currency in which the loan is granted. For example, from September 1981 until March 1982, the French franc depreciated by 9 per cent against the U.S. dollar; the Canadian dollar depreciated by 2 per cent; and the British pound appreciated slightly. When all of these elements are considered together, it becomes very difficult to assess the effective cost of the loans offered and hence the relative generosity of the various export-assistance programs.

It is thus difficult to assess the effect of Canadian export subsidies aimed at matching foreign export-subsidy programs. In some individual transactions, these subsidies may have helped to close a deal. In others, they may not have been a determining factor at all and may have been merely a waste of resources. It should also be noted that if all of the major exporting countries subsidized their exports to a similar extent, no single country would benefit; yet all would bear the costs. The results of the EDC study suggest that although subsidies may have an impact on individual transactions, they do not significantly affect an export category as a whole. The major industrialized countries have always competed with one another to secure foreign markets. Following the recent Tokyo Round of negotiations of the General Agreement on Tariffs and Trade (GATT), members agreed to reduce tariffs, but this agreement did not cover the price of services nor, consequently, the cost of export credit. Hence most of these countries have, to a certain extent, replaced tariffs and production subsidies with indirect subsidies, as a continuing means of gaining advantage in the international trade arena. But if all countries have found it beneficial to

reduce tariff barriers, they may eventually find it advisable to do away with, or reduce, export subsidies.

The threat of potential budgetary problems can lead governments to set a maximum subsidization rate beyond which they are not prepared to go. Most major industrialized countries are becoming more and more concerned with the skyrocketing costs of export assistance programs. The U.S. Treasury, for example, estimates that in 1980 the total subsidy element in such programs exceeded $US 7 billion, of which the French subsidies amounted to more than $US 3 billion. Given these circumstances, Canada's competitors might not follow suit if Canada decided to raise its subsidy rate on certain products. But even in that case the subsidy cost would be high in relation to the benefits (see Appendix E).

Negotiations to limit the subsidy rate were held under the aegis of the OECD, which led to a Consensus Agreement being signed in June 1976 by 18 creditor countries and amended several times thereafter. This agreement limits the loan subsidies that signing countries can give to their exporters (Table 4-11). Agreed rates were set at the same level for all countries, regardless of the currency of the loan. This is surprising, since the cost of the subsidy depends on currency fluctuations. This was actually recognized by an OECD-sponsored study. One of the solutions proposed in that study called for the introduction of an interest rate system differentiated according to currency value and tied to market rates in the country concerned.[18]

Table 4-11

Minimum Interest Rate for Public Export Loans, as Set in the OECD Consensus Agreement, Effective July 1982[1]

	Maturity		
	2 to 5 years	5 to 8.5 years	8.5 to 10 years
	(Per cent)		
Status of country[2]			
Relatively rich[3]	12.15	12.40	-
Intermediate[3]	10.85	11.35	-
Relatively poor	10.00	10.00	10.00

1 Countries with low market interest rates are to be permitted an official final blended rate at a premium of 0.3 per cent above their commercial lending rate.

2 Relatively rich countries are those with a per capita GNP of over $4,000 in 1979; the relatively poor are those with a per capita GNP of less than $625 in 1978.

3 Loans with a maturity of 8.5 to 10 years to "relatively rich" and "intermediate" countries are not authorized.

SOURCE International Intelligence Report, "A Bulletin on the Competition Environment," July 9, 1982.

The abandonment of export credit subsidies would be desirable, but the signature of an international accord to that end seems far off. Unilateral abandonment and the necessary restructuring of the domestic economy to compensate for the loss of foreign markets could entail high costs. For these reasons,

11 We recommend that the federal government continue its efforts, at meetings of the Organisation for Economic Co-operation and Development and the General Agreement on Tariffs and Trade, to obtain an international agreement to further limit subsidized export credit. In the absence of such an agreement, we recommend that Canada use subsidized credit only in cases where there is a sufficiently strong presumption that it will facilitate the opening of new markets or that it will increase the market share for Canadian products.

We believe that in the current international environment it is advisable to match the support programs set up by Canada's main competitors. Canada should not, however, go any further than that, lest she might run the risk of being confronted with retaliatory measures.

In view of the existence of foreign export-assistance programs, it seems advisable to extend to Canadian exporters the same advantages as those enjoyed by exporters from other countries. It is equally advisable to protect Canadian industry from imports subsidized with export credits from the governments of the countries of origin, a protection that already exists in the United States, for example. Furthermore, the amount of public credit support enjoyed by imports into Canada is relatively large, compared with that supporting Canadian exports. While this assistance from abroad may benefit the Canadian economy in a general way, by reducing the effective cost of imports, it may, in some cases, impede the achievement of EDC objectives and prejudice Canadian manufacturers. Indeed, the latter would see little advantage in increasing their EDC-assisted sales abroad only to lose domestic markets to foreign imports that enjoy credit subsidies. Consequently,

12 We recommend that, in the absence of an international agreement to further limit subsidized export credit, the federal government consider the advisability of matching foreign export-support programs that currently have no equivalent in Canada and of providing assistance to domestic firms which must compete with imports that have benefited from foreign subsidized credits.

Unlike other forms of credit insurance, those aimed at competing with foreign export-assistance programs may be costly to the public purse. It is estimated that in 1978 the costs of insurance against exchange risks in France amounted to more than $US 800 million. In spite of the repeated requests of Canadian exporters, the federal government refuses to insure these types of risks, because of the high costs that can result from the poor design of the insurance scheme or from the fact that it would constitute an attempt to protect exporters against almost certain disasters. When devaluation in the currency of the loan is expected, there is not likely to be any insurance available to protect the creditor against the resulting losses. And when currency revaluation or appreciation is unlikely, any insurance issued against currency fluctuations will result in certain loss for the insurer. Sound insurance can only be offered when exchange rates fluctuate around stable values. If the government does not wish to enter this area, it could leave the field open to private insurers, even foreign ones, in view of the international nature of the risks involved. Indeed, these insurers may insure exchange risks by holding portfolios in different currencies whose values fluctuate independently of each other.

We recommended above that the EDC withdraw from direct export-financing markets and limit its lending activities to refinancing or rediscounting. The fact that the EDC may wish to continue to subsidize export credit does not alter this recommendation. In the United Kingdom, for example, commercial banks financing exports receive a grant from the ECGD that is equal to the difference between the consensus rates agreed to by the OECD and the market rates applicable to equivalent transactions. Consequently,

13 We recommend that the private sector be encouraged to supply direct export credits to Canadian producers even when a public subsidy is deemed necessary. The federal government, through the Export Development Corporation, should assume the cost difference between the preferential conditions offered and the conditions that would have prevailed had private financing been offered in the absence of public support.

Subsidized export credit is often directed to Third World countries. Thus, this subsidy not only helps to promote Canadian exports and assist Canadian firms in increasing their level of production, but it is also a form of aid to developing countries. On the other hand, CIDA, which does not have as an explicit objective the promotion of Canadian exports, indirectly helps Canadian firms in their exporting activities. Although they have different objectives, CIDA and the EDC may sometimes cover identical ground; 21 per cent of the loans authorized by the EDC in 1980 went to a group of middle-income developing countries that had also received 20 per cent of CIDA's net payments outstanding that year. While CIDA favours developing countries with very low average incomes, however, EDC loans to the Third World favour those with middle or high average incomes.

Government intervenes in export financing activities in three ways. It intervenes to correct market deficiencies or to prevent the retardation of Canadian export growth by problems affecting the allocation of financial resources; this assistance should take place without subsidies of any sort. It also offers subsidized credit intended to promote the growth of Canadian exports generally and to assist Canadian firms in securing new foreign markets. This form of assistance also benefits the foreign buyer, who purchases his imports at a price that is less than the cost of the resources involved in their production. Finally, government provides aid to needy countries. This assistance, which may take the form of loans offered at extremely favourable conditions, benefits not only the recipient countries but also Canadian exporters, who may, as a result, sell more to those countries. These three types of intervention have different objectives, which should be kept separate. If they overlap, they should be co-ordinated. Therefore,

14 We recommend that the Export Development Corporation manage separately those of its activities that are intended to expand markets for Canadian products. We further recommend that provision be made for greater co-ordination between the Export Development Corporation and the Canadian International Development Agency whenever their activities overlap.

Conclusion

Exports depend on many factors. In this report, we have looked at only one – namely, the availability of export credit and credit insurance. We have noted that there are in general few deficiencies in the markets for these instruments. The private sector, however, could be encouraged to fill the remaining gaps through a reorientation of EDC activities towards reinsurance and refinancing. Disregarding the support accorded by foreign countries to their own exports, more appropriate instruments than subsidized export credit could be used to achieve the government's macroeconomic objectives. Although it would be desirable for all countries to abandon simultaneously

their export subsidy programs, this seems improbable at the moment, and Canada must continue to offer export subsidies for strategic reasons. The recommendations contained in this chapter should help to increase the efficiency of government intervention in the area of export finance. They should enable the government to continue to promote exports and yet minimize the costs to the public purse.

5 Housing Assistance

The importance of Canada's housing industry is reflected in the few figures that follow. Twenty-four million Canadians live in approximately 8 million dwellings, of which almost two-thirds are owner-occupied; 56 per cent of these owners have a mortgage on their home; housing construction represents from 4 to 6 per cent of gross national product and increases Canada's housing stock by 1.9 to 3.7 per cent annually; gross rents are equal to about 9 per cent of GNP.

Since annual construction represents a small proportion of the existing stock, even a small change in the demand for housing can alter considerably the rate of residential construction. The potential instability of this industry and the economic and social significance of the housing sector explain its high priority among the concerns of governments. The federal and provincial governments exert great influence over the construction, use, and financing of residential dwellings in Canada. They employ many mechanisms to regulate all aspects of housing, from building codes and zoning to general monetary policy, income tax regulations, rent controls, financial incentives, and direct participation in the construction and management of dwellings.

Government housing assistance has been available for many years in Canada and is responsible for a significant improvement in the housing stock and housing finance instruments. Since the 1950s, governments have favoured mortgage loans and mortgage insurance as instruments of intervention. Both instruments have contributed to the development of the mortgage market and, indirectly, to the improvement of the housing stock.

Government initiatives to redistribute income and stabilize the construction industry through financial instruments have been less successful, however. Mortgage loans and insurance have proved to be better adapted to objectives related to the functioning of financial markets. While developments in the mortgage market over the past decade of persistent inflation show that governments and their mortgage finance agencies still have a role to play in this market, other instruments may be better suited to their social and macroeconomic objectives in the fields of housing and residential construction.

Institutions

There are more than 50 government housing finance programs in Canada, administered by 12 federal or provincial agencies which, in 1980, had total assets (real estate and loans) of about $16.4 billion and contingent liabilities of $24 billion associated with insurance in force. With assets of $10.8 billion, the Canada Mortgage and Housing Corporation (CMHC) is by far the largest of these agencies.

Every province (except British Columbia) has at least one agency, and Ontario has three. The federal government's presence in housing finance arises from its constitutional jurisdiction over banking and finance. But housing as such is the responsibility of the provinces, as the British North America Act and its successor, the Constitutional Act of 1981, give them jurisdiction over property rights. This dual jurisdiction explains the involvement of both levels of government in this area. The activities of federal and provincial agencies are closely interrelated, combining financial assistance with the direct supply of rental housing, and many programs administered by provincial agencies are funded by the CMHC. The consolidated assets of the CMHC and the provincial agencies amount to approximately $13.8 billion – well below the $16.4 billion mentioned above.[1]

History

Federal and provincial government participation in the development of Canada's housing stock is by no means a recent phenomenon. While the provinces were not very active in this field until the mid-1960s, federal lending activities date back to the passage of the Dominion Housing Act in 1935 and to earlier initiatives.

The Dominion Housing Act ushered in the 5 per cent mortgage loan over 20 years with a down-

payment of only 20 per cent. Until that time, the down-payment required of most home buyers was rarely less than 40 per cent of the property's market value, and the mortgage loans had an amortization period of 10 years. Under the new act, Ottawa advanced 20 per cent of the house's value to approved lenders[2] at an annual interest rate of 3 per cent. The approved lender, in turn, made a mortgage loan to the buyer of a house for up to 80 per cent of its value, at a 5 per cent annual rate of interest. Because the federal portion of the funds cost the lender only 3 per cent, he was able to earn a return of 5.7 per cent on his total capital.

In 1938, the National Housing Act (NHA) replaced the Dominion Housing Act of 1935. The new act provided for direct federal loans to borrowers in small and remote communities not served by private mortgage lenders. Despite this government assistance, housing construction remained at low levels during the late 1930s and was severely restricted during the war years. As a result, the National Housing Act was amended in 1944, and the Central Mortgage and Housing Corporation (later renamed the Canada Mortgage and Housing Corporation) was set up the following year to administer the legislation. The act was again revised in 1954 to provide mortgage insurance and admit banks to the circle of approved lenders, subject to the interest-rate and volume restrictions of the Bank Act.

The introduction of mortgage insurance opened the door to fixed-interest loans for the construction of new homes, with a term of 25 years or more and ranging up to 90 per cent of the home's market value. Whenever the fixed NHA rate was lower than other mortgage rates, private institutions restricted the supply of NHA mortgages to their prime customers. The CMHC therefore extended its residual lending program in 1958 with a view to stabilizing the volume of NHA mortgage loans. Conventional loans, not provided under the National Housing Act, were still available on stringent terms. In the mid-1960s, their term to maturity ranged from 7 years in Prince Edward Island to 15.9 years in British Columbia, with a national average of 12.5 years. The average interest rate was 8.1 per cent, compared with an average NHA rate of approximately 7.4 per cent. Regional variations in rates and maturity were attributable to differences in the cost and risk of the loans.

A sharp difference between NHA and conventional loan terms was possible because NHA loans were confined to the new-housing market. This was changed by a number of reforms undertaken between 1965 and 1970 that integrated the mortgage with other financial markets. In 1965, the CMHC began insuring new mortgages on existing houses. The following year, the NHA rate was allowed to fluctuate in line with government bond yields; in 1969, it was freed altogether. The revision of the Bank Act in 1967 allowed banks to lend on existing housing, while eliminating the ceilings on the interest rates charged by these institutions. In 1969, NHA insurance was made available for five-year term mortgages. From 1970 on, private mortgage insurance was admitted to the market place, allowing certain lenders to substitute it for CMHC insurance.

In the mid-1960s, the CMHC shifted its emphasis from assisting the private sector to lending to the other lower levels of government. From 1965 on, it focused its activities on "social housing," financed under various cost-sharing programs. The objective had thus shifted from construction to income redistribution and increasing the affordability of housing. At about the same time, the financing of single detached houses was facilitated by amendments to the National Housing Act and to the Bank Act.

By 1971, public housing accounted for 30 per cent of CMHC loans. And the Corporation, which until then had made loans at the maximum operating NHA rate, began that year to advance loans at rates lower than those on NHA loans. (These had been variable, however, for two years.) This inaugurated a move in the early 1970s towards more explicit loan subsidies. Previous loans may have been subsidized, but not in terms of the financial cost of funds.

The federal government gradually introduced a series of measures designed to enable middle-income persons to find modest housing at prices slightly below market levels. The Assisted Home Ownership Program (AHOP), introduced in 1973, offered substantial assistance to middle-income, first-time home buyers. The growth of AHOP and similar programs, particularly those serving social objectives, contributed to the growth of CMHC loans, which reached a peak of $1.6 billion in 1975.

Since then, and especially since 1978, there has been a retrenchment in CMHC lending. Programs assisting middle-income renters and purchasers have been discontinued, and social housing agencies have been encouraged to seek NHA-insured, private-sector loans. The CMHC loans, which in 1965-75 accounted for 10 to 35 per cent of all new mortgage approvals, fell to only 0.1 per cent in 1979.

The 1979 amendments to the NHA and the recent cancellation of CMHC programs, such as AHOP, Assisted Rental Program, Student Housing, Entrepreneurial Housing, and the Communities' Services Contribution Program, demonstrated the federal government's intent to disentangle itself from prior

arrangements with the provinces and to shift more responsibility to them for housing.

At the provincial level, governments did not fully enter the field of housing assistance until the mid-1960s, when federal policy focused on social housing. Prior to 1964, the jurisdiction of the provinces over housing was exercised mainly by the municipalities, which regulated the use of land, provided sewers, water supplies, and roads. These activities were partly financed by federal loans and grants. In addition, provinces contributed one-fourth of the capital and operating subsidies for public housing, in partnership with the federal government.

Beginning in 1964, the National Housing Act offered new terms for public housing, under which the CMHC could lend 90 per cent of the capital costs and assume 50 per cent of the operating losses incurred by provincial and municipal agencies. This re-orientation of federal activities led to the formation of new agencies whose major goal was to maximize the flow of federal money to the provinces. Between 1970 and 1980, provincial loans for housing grew at a compound rate of 57.5 per cent per year. Since 1978, however, provincial lending has undergone some restraint, with the result that the rates of growth experienced previously may not be achieved again within the foreseeable future. The Société d'habita-

Table 5-1

Major Government Agencies and Programs Providing Loans and Loan Guarantees to the Housing Sector, Canada, 1980[1]

	Government	Status[2]	Date of creation	Assistance outstanding: Loans	Assistance outstanding: Loan guarantees	Assistance outstanding: Public housing	Assets
				($ Thousands)			
Canada Mortgage and Housing Corporation (CMHC)	Federal	A	1946	2,899,311	24,360,320	805,916	10,791,320
Newfoundland and Labrador Housing Corporation (NLHC)	Newfoundland	A	1970	18,172	-	76,630	168,259
Prince Edward Island Housing Corporation (PEIHC)	Prince Edward Island	A	1975	2,626	85	14,339	29,960
Nova Scotia Housing Commission (NSHC)	Nova Scotia	B	1967	25,455	-	62,513	243,968
New Brunswick Housing Corporation (NBHC)	New Brunswick	A	1967	37,437	-	65,292	169,683
Home Energy Conservation Program (HECP)	New Brunswick	P	1977	5,763	-	-	...
Société d'habitation du Québec (SHQ)	Quebec	A	1967	2,527	-	383,632	1,059,191
Ontario Mortgage Corporation (OMC)	Ontario	A	1974	528,474	-	-	599,390
Ontario Housing Corporation (OHC)	Ontario	A	1964	3,834	-	1,296,760	1,451,460
Ontario Land Corporation (OLC)	Ontario	A	1974	109,340	28,809	-	689,608
Manitoba Housing and Renewal Corporation (MHRC)	Manitoba	A	1967	4,935	1,279	270,593	331,360
Insulation Loan Program (ILP)	Manitoba	P	1977	5,751	-	-	...
Saskatchewan Housing Corporation (SHC)	Saskatchewan	A	1973	11,980	-	75,077	183,557
Housing and Special Care Homes Act	Saskatchewan	P	..	-	1,856	-	...
Northern Housing Advance Account	Saskatchewan	P	1974	5,114	-	-	...
Alberta Home Mortgage Corporation (AHMC)	Alberta	A	1976	774,601	5,140	-	815,981
Housing Corporation of British Columbia (HCBC)[3]	British Columbia	A	..	8,429	-	-	13,662
Provincial Home Acquisition Fund (PHAF)	British Columbia	P	1976	193,764	-	-	...

1 To avoid double-accounting, the loan amounts shown for provincial agencies exclude estimated contributions made by the CMHC.
2 A = agency, P = program, B = board.
3 No longer active.
SOURCE Estimates by the Economic Council of Canada based on data from the Public Accounts of Canada and of the provinces, and on the annual reports of the agencies.

tion du Québec ceased to be a lending agency in 1974, while the Ontario Mortgage Corporation stopped offering new loans in 1978 and sold part of its portfolio. As of March 31, 1980, 35 per cent of the provincial agency loans outstanding to the private sector were held by agencies that had ceased to lend further funds. Another 51 per cent were held by the Alberta Home Mortgage Corporation (AHMC), which offers diversified and expanding programs, and the remaining 14 per cent were held by other provincial agencies for which direct loans were a fairly minor activity (Table 5-1).

Instruments

Mortgage insurance in force underwritten by the CMHC under the National Housing Act amounted to $24.4 billion on December 31, 1979. Other government garantees on mortgage loans amounted to some $36 million, primarily under the activities of the Ontario Land Corporation and the AMHC. In addition to the loans made by approved lenders, the CMHC insures some of its own loans, as well as those of some provincial agencies; the AHMC insures only its own loans.

At the end of the 1979/80 fiscal year, public mortgage loans to homeowners and investors in privately initiated rental projects represented $4.7 billion on a consolidated basis, 62 per cent of which was held by the CMHC. While funding only 38 per cent of the loans outstanding to the private sector, provincial agencies and governments administered 41 per cent of the amount outstanding; the difference of 3 percentage points represented mainly jointly funded ventures (with the CMHC) in public housing or urban renewal.

Housing finance agencies generally incorporate a subsidy in their direct loans and mortgage insurance. For the 1978/79 fiscal year, these indirect subsidies amounted to $67 million or $345 million, depending on whether the cash cost method or the social opportunity cost method is used. Expressed as a proportion of the interest cost of funds, the subsidy rate was 15.6 per cent according to the first measure and 47.3 per cent according to the second.

Loan subsidies arise in several ways. An agency may lend at an interest rate below its cost of funds; for example, 2 per cent is charged annually on CHMC loans to nonprofit corporations and under the Saskatchewan Urban Natives Program. The lending agency may also charge a rate of interest greater than its cost of funds but less than what the funds would yield if they were placed at competitive rates. In this way, the agency enables individuals to borrow on terms almost equal to those usually reserved for government loans. In the process, it may get inadequate compensation for the risk assumed. If the agency charges a market rate of interest but softens other mortgage terms, it is again providing a subsidy. Compared with private institutional loans, public agencies typically lend with a higher loan-to-value ratio and for a longer amortization period. In some cases (nonprofit corporations and cooperative housing, for example), the CMHC has made loans covering 100 per cent of the cost.

Aside from these indirect subsidies, grants are offered through many programs, which include one-time grants, ongoing subsidies, and forgivable loans (such as those provided by the CMHC under its Residential Rehabilitation Assistance Program). The choice between these two instruments appears to be based on no overriding determinant, once the decision has been made to provide a subsidy. For example, the CMHC grants a direct subsidy when it makes loans for social housing at interest rates close to market levels and with a commitment to assume part of the operating losses, once construction is complete.

The grants can be provided by different levels of government. This was the case with the Assisted Home Ownership Program, which combined low-interest loans with federal debt service reduction grants, and in some cases provincial one-time grants to assist with the down-payment. The federal government and several provinces recently offered direct grants of several thousand dollars to first-time home buyers in order to improve the affordability of housing and stimulate residential construction during a period of high interest rates.

During the 1979/80 fiscal year, grants paid to individuals amounted to $236 million, of which $176 million was paid by the CMHC. If "intergovernmental" grants to lower levels of government (to assist in the construction of public housing) are added to the latter figure, federal grants through the CMHC amounted to $1 billion in 1980, compared with $44 million 10 years earlier. This reflects the growth of public housing and the more recent concern with rehabilitation and insulation in the last decade. At the beginning of 1980, the federal government was committed to subsidizing the operation of 225,000 dwelling units on a long term basis – almost 7 per cent of the rental-housing stock.

Finally, the activities of government agencies are not limited to providing loans and mortgage insurance to the private sector. They also lend to lower-level governments (provincial or municipal) and to government enterprises involved in urban development and renewal projects, and they directly invest in

rental housing. On March 31, 1979, the amount outstanding of these loans was approximately $8 billion on an unconsolidated basis. Direct investment in public housing amounted to $3.0 billion at cost, including projects under construction.[3]

The Mortgage Market

Before analysing the objectives of government and the effects of its intervention in the mortgage market, the major characteristics of this market should be discussed.

Major Uses of Funds

At the beginning of 1980, there were $134 billion in commercial and residential mortgages outstanding. Eighty-five per cent of these were owed by persons and unincorporated businesses. The vast majority of mortgages are used by individuals to finance their homes or their small businesses. Together, they represent 57 per cent of the total financial liabilities of the personal and unincorporated sector.[4]

While mortgage debt is substantial, the number of households directly affected is less so. Slightly more than one-half of homeowners have mortgages, and clear titles can be found among persons in all age and income brackets (Tables 5-2 and 5-3). Furthermore, the average ratio of mortgage loans to the market value of the properties is about 37 per cent. The potential for increased mortgage lending is therefore considerable.

Table 5-2

Average Income of Homeowners and Value of Homes with and without Mortgages, by Age of Owner, Canada, 1977

	Average income of homeowners		Average market value of home		Average equity in the home			
							Difference	
	With mortgage	Without mortgage	With mortgage	Without mortgage	With mortgage	Without mortgage	Amount	As a proportion of mortgage debt
	(Dollars)							(Per cent)
Age of owner								
Under 35	20,472	15,788	43,853	29,673	20,323	29,673	9,350	39.7
35-44	23,648	21,052	51,166	39,607	33,343	39,607	6,264	35.1
45-54	26,220	20,655	56,187	42,105	41,798	42,105	307	2.1
55-64	21,118	17,774	47,163	41,877	36,768	41,877	5,109	49.1
65 and over	13,797	9,572	45,364	34,354	36,648	34,354	-2,294	-26.3
Average	22,383	15,619	48,805	38,018	30,520	38,018	7,498	41.0

SOURCE Statistics Canada, "Home Ownership and Mortgage Debt in Canada, 1977" (Ottawa, July 1979).

Table 5-3

Value of Homes with and without Mortgages, by Income of Owner, Canada, 1977

	Average market value of home		Average equity in the home			
					Difference	
	With mortgage	Without mortgage	With mortgage	Without mortgage	Amount	As a proportion of mortgage debt
			(Dollars)			(Per cent)
Income						
Under $3,000	40,086	27,041	26,249	27,041	792	5.7
$3,000 - $6,999	38,078	29,241	25,251	29,241	3,990	31.1
$7,000 - $10,999	38,871	34,963	24,776	34,963	10,187	72.3
$11,000 - $14,999	39,620	34,462	24,151	34,462	10,311	66.7
$15,000 - $19,999	42,708	38,120	25,390	38,120	12,730	73.5
$20,000 - $24,999	48,448	41,773	28,065	41,773	13,708	67.3
$25,000 - $34,999	53,544	51,190	33,975	51,190	17,215	88.0
$35,000 and over	75,641	72,451	53,271	72,451	19,180	85.7
Average	48,805	38,018	30,519	38,018	7,499	41.0

SOURCE Statistics Canada, *The Distribution of Income and Wealth in Canada, 1977*, Cat. 13-570.

Residential mortgages are used to finance construction, sales of existing properties, and the purchase of nonhousing assets (furniture, for example) held by the homeowner. Mortgage-loan approvals by the principal lending institutions secured by new residential construction increased during the 1970s at an annual rate of 16.6 per cent, and loans on existing houses increased by 31.5 per cent. Refinancing of existing property has therefore become the primary purpose for which housing funds are currently allocated. The proportion of financing allocated to existing housing increased even more for multiple dwellings. The greater increase in loans on existing houses reflects mainly the realization of inflationary gains each time an existing house is sold to new owners.

It should be noted that the demand for shelter can also be satisfied by renting. The owner of a house or apartment has made an investment decision that is based on the value of housing as a long-term asset. The asset is not without risk, however, because its value is not determined only by its replacement cost; indeed, it can fall below the cost of replacement. In addition, homeownership is necessarily a long-term investment because of the comparatively high cost of buying and selling homes.[5] Homeownership, therefore, gives rise to a demand for long-term funds.

New mortgages are also used to purchase nonhousing assets. A study conducted in the United States demonstrates that the demand for mortgage loans corresponds closely to demands for assets other than housing.[6] In Canada, the most recent household finance survey (1977) shows that, within the same age bracket, homeowners with mortgages have more valuable homes but less equity in the house than homeowners without mortgages.[7] Of two owners in the same age and income group, the one with a mortgage of $18,300 has a house worth $10,800 more than the homeowner without a mortgage, but the former also has $7,500 less in equity. It could be assumed that the difference in equity between the two is a measure of the mortgage borrowing that is used for purposes other than the purchase of a home. On this basis, borrowing used to purchase nonhousing assets would represent approximately 40 per cent of residential mortgages outstanding.[8] Thus the relationship between mortgages and housing is not as close as it is often assumed to be.

Statistics Canada has also found that homeownership, securities, and "other real estate" (cottages and investment properties) are substitutable investments and that mortgagors have higher incomes than claimants to clear title in the same age group.[9] Thus, mortgagors use mortgage debt to acquire both a home and its substitutes – such as securities and vacation properties – and invest part of their higher income in a more diversified portfolio. This use of mortgages is well illustrated by the behaviour of Quebec residents. Although the proportion of homeowners is smaller in Quebec (49.6 per cent) than in the other nine provinces (63.1 per cent), the proportion of those who have mortgages is larger (62 per cent versus 51.8 per cent). One reason for this is that there are more duplexes in Quebec, which not only provide shelter to their owners but also represent additional investments.

Sources of Funds

An important feature of new housing finance is the year-to-year variability in the sources of funds, even though there may be little change in total expenditures on new dwellings. Between 1976 and 1981, for instance, the annual expenditure on new housing ranged between $10.3 billion and $12.6 billion, although federal and federally insured loans declined from $4.2 billion (40 per cent of total expenditures) to $1.8 billion (14 per cent) over the same period, the difference being made up by funds from other sources (Table 5-4). Conventional loans had been increasing from 1976 to 1979, but in 1980 and 1981 construction activity was sustained by provincial loans and grants, mortgage loans supplied by persons other than lending institutions (vendors, relatives, lawyers, etc.), by loans other than mortgages, and by equity. This "other" source provided $6.7 billion in 1981 out of a total of $12.6 billion.[10] The contrast between the comparative stability of construction expenditures and the great variation in the sources of construction funds suggests that different sources of funds are very good substitutes for each other.

A second important feature of new-housing finance is the increased importance, over the last 25 years, of loans from private financial institutions: loans granted by banks, trust companies, and pension funds. These sources financed almost one-half of the total expenditures on new housing towards the end of the 1970s, up from one-third in the mid-1950s. The importance of private lenders is greater in the financing of existing houses, since they held almost 90 per cent of the institutional mortgage loans outstanding in 1980, with slightly less than one-fourth being insured by the federal government under the National Housing Act (Table 5-5). The remaining 10 per cent was held by the CMHC, provincial governments and agencies, and the federal government under farmers' and veterans' home loan programs.[11] By comparison, in 1954 – one

year after mortgage insurance came into effect – private lenders held 75 per cent of all mortgages, and 35 per cent of those were insured. Because of the increased supply of private funds, federal loans declined in relative importance (Table 5-4).

Private lenders also include persons and unincorporated businesses that acquired mortgages in the secondary market or took back mortgages from purchasers of their property. Thus the mortgage market is not completely institutionalized. About 16 to 26 per cent of the mortgage debt held by persons and unincorporated businesses is owed to creditors within the same group.

The importance of the private sector is confirmed by an analysis of the net flow of mortgage loans – i.e., the increase in mortgage assets less the increase in mortgage liabilities. While the net supply from the public sector varied considerably over the last

Table 5-4

Distribution of Funds for Expenditure on New Housing, by Source, Canada, Selected Years, 1954-81

	1954	1956	1961	1966	1971	1976	1977	1978	1979	1980	1981
						(Per cent)					
Federal loans	7.2	1.5	19.0	22.8	16.5	8.7	5.9	4.8	4.0	3.1	1.4
CMHC	6.6	1.0	18.7	22.3	16.1	8.4	5.7	4.6	3.7	2.9	1.2
Other	0.6	0.5	0.3	0.5	0.4	0.3	0.2	0.2	0.3	0.2	0.2
Institutional loans	35.1	48.6	42.8	37.9	46.2	54.8	55.4	50.6	50.2	43.7	33.6
NHA	25.9	33.5	26.0	9.2	30.3	31.0	32.6	24.0	14.3	12.9	12.4
Conventional	9.2	15.1	16.8	28.7	15.9	23.8	22.8	26.6	35.9	30.8	21.2
Owner's equity associated with loan finance	22.3	20.5	15.5	21.2	19.8	10.6	14.1	17.8	16.5	11.6	10.6
Sub-total	64.6	70.6	77.3	81.9	82.5	74.1	75.4	73.2	70.7	58.4	45.6
Direct federal expenditure	1.4	1.8	1.4	1.2	0.7	0.7	1.0	0.5	0.6	1.0	0.8
Other[1]	34.0	27.6	21.3	16.9	16.8	25.2	23.6	26.3	28.7	40.6	53.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
						($ Millions)					
Total Funds	1,310.2	1,685.0	1,469.3	2,150.3	4,495.0	10,334.4	11,142.0	11,386.0	11,088.0	10,305.0	12,550.0

[1] Estimated residually.

SOURCE Canada Mortgage and Housing Corporation, *Canadian Housing Statistics*, 1971 and 1981.

Table 5-5

Mortgage Loans Outstanding, by Type, Canada, Selected Years, 1954-80

	1954	1956	1961	1966	1971	1976	1977	1978	1979	1980
						($ Millions)				
Government loans	850	893	2,229	3,879	8,183	12,073	12,868	13,104	13,114	13,698
CMHC	527	516	1,570	2,530	4,971	7,427	7,735	7,713	7,455	7,536
Other	323	377	659	1,349	3,212	4,646	5,133	5,391	5,659	6,162
NHA-approved loans	901	1,798	3,003	4,038	6,372	12,939	16,087	21,220	25,186	27,483
Conventional loans	1,667	2,246	5,409	12,790	19,554	47,886	57,435	66,601	76,470	84,411
Total	3,418	4,937	10,641	20,707	34,109	72,898	86,390	100,925	114,770	125,592

SOURCE Canada Mortgage and Housing Corporation, *Canadian Housing Statistics*, 1971 and 1981.

decade, the federal and provincial governments together provided less than 15 per cent of the net increase in mortgage loans. Some federal departments have been withdrawing funds from the mortgage market every year since 1972 (except 1974), while the net supply of all funds from the federal government (including the CMHC) peaked in 1975 then fell, to an almost negligible $27 million by 1979. Provincial institutions and departments, however, have been net lenders in every year since 1968. Their net supply has grown almost without interruption and at a prodigious pace. But even so, in 1980, when they made their largest net increase in mortgage loans and the market as a whole contracted, they accounted for only 6 per cent of net new loans (Chart 5-1).

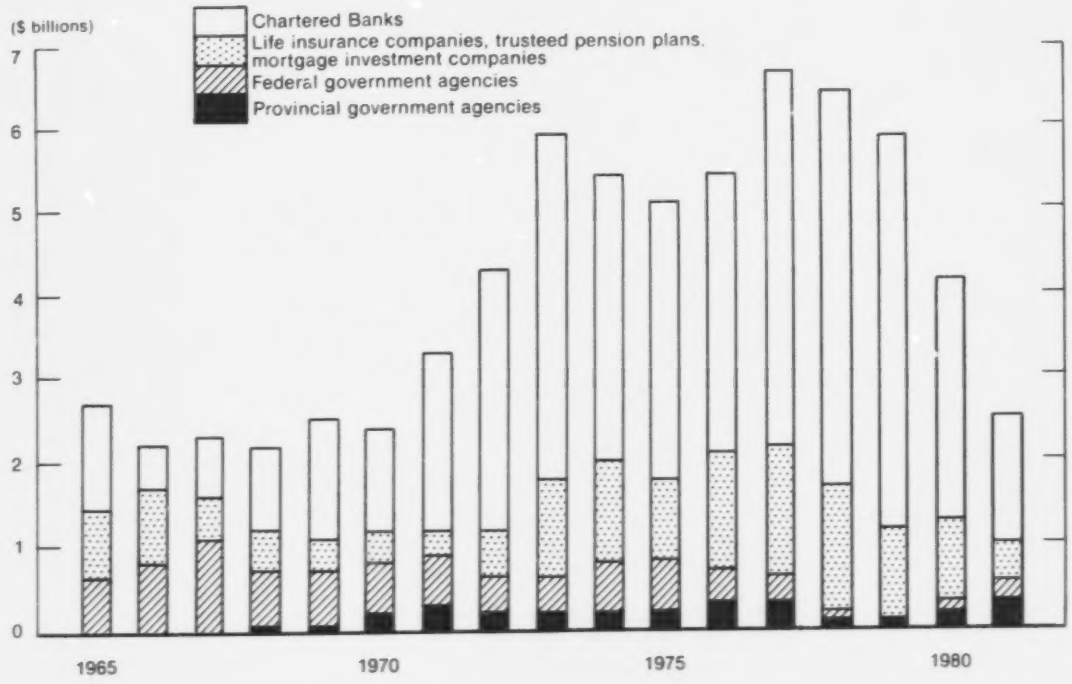
An interesting recent change in mortgage supply is the resurgence of mortgages taken back by vendors. While it is difficult to determine accurately the amounts involved without direct sampling of title-transfer and mortgage registrations at land-title offices, the growing importance of the "other" category in Table 5-4 gives some indication. The estimates derived residually by Statistics Canada from data on known transactions in 1978 and 1979 show that mortgage lending by the personal sector exceeded that by any other category of lenders except trust companies.[12] More-recent estimates indicate that as many as seven out of 10 real estate transactions involved some kind of vendor financing on unconventional terms, often at interest rates significantly below those of the market.[13]

Objectives of Government Assistance

The objectives pursued today by mortgage loan and guarantee agencies are the outcome of their

Chart 5-1

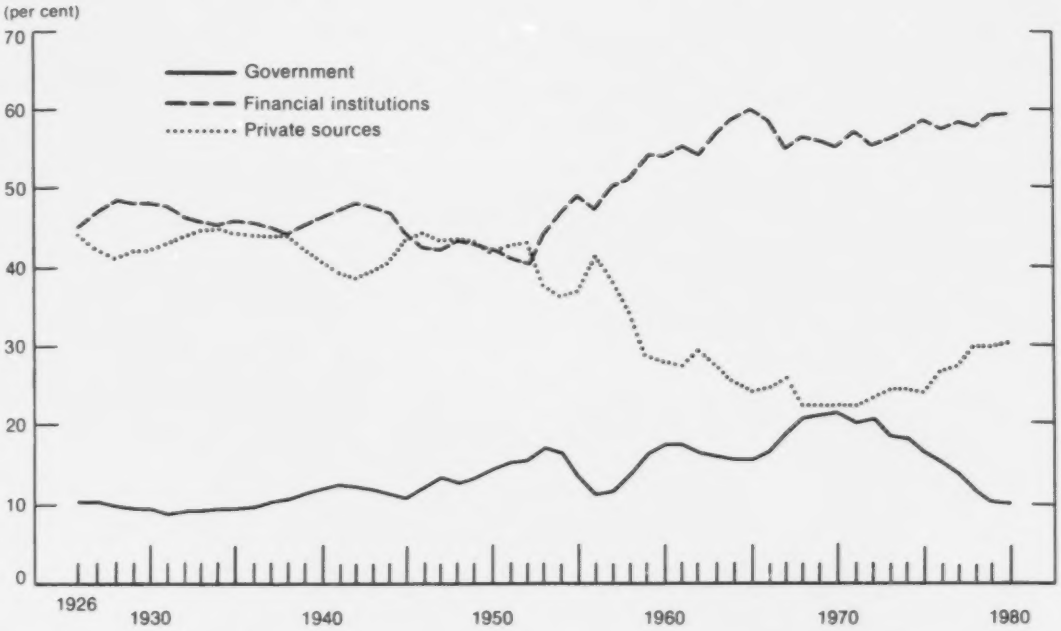
Real Change in Mortgage Assets, Canada, 1965-81[1]



1 The 1981 deflator is estimated.
SOURCE Data from Statistics Canada and the Canada Mortgage and Housing Corporation.

Chart 5-2

Mortgage Loans Outstanding, by Type of Lender, Canada, 1926-80



SOURCE Canada Mortgage and Housing Corporation, *Mortgage Assets of Lending Institutions and Governments* (Ottawa: CMHC, 1981).

historical evolution. The wording of general objectives is vague, with the result that an agency is not hamstrung by the legislation that created it. The agencies' acts and reports provide more information on their programs and activities than on their goals.[14] Nonetheless, the objectives pursued can be divided into two groups, depending on whether they are related to the functioning of financial markets or to more-general concerns.

Correcting Market Imperfections

The goal of filling in credit gaps is clearly stated in the enabling legislation of only three agencies. Since the CMHC is one of these, the three accounted for 71 per cent of all government loans outstanding to the housing sector. The CMHC and the provinces jointly finance programs aimed primarily at rural borrowers and natives whose applications for funds have been rejected by private institutions. The Manitoba Housing and Renewal Corporation has also set up a special program aimed at rural communities, to provide loans of last resort to persons unable to obtain credit elsewhere because their property was not connected to a sewage system. Other provinces have similar programs, often linked to CMHC programs and partially financed by the Corporation. The relevant legislation makes no direct reference to what might be called a credit gap, but the enabling legislation of five agencies specifies that the dwelling that is being financed must be located in a small or remote community, undoubtedly because legislators believed such communities would have fewer private financial services.

The Socio-Economic Dimension

Other objectives are to improve the general performance and the stability of the economy, to overcome problems created by the presence of externalities, and to redistribute income through the supply of subsidized housing. Most programs are oriented towards middle- or low-income home purchasers or tenants, thus implicitly focusing on some redistribution of income, an improvement in the quality of housing, or both. These two issues are

closely related because low-income persons are those most likely to live in substandard housing.

The concern of governments about the quality of housing demonstrates that they do not regard housing as something to be governed only by individual preferences and constrained by personal income. Improved dwelling standards may benefit not only the occupant but also society at large. The social benefit may include reduction in crime and disease, a better upbringing of children, and aesthetic pleasure from the elimination of slums.

Most agencies state that one of their objectives is to make adequate housing affordable. Affordability is an imprecise concept, upon which a policy cannot be based without further explanation. Good housing may be unaffordable because of the lack of adequate mortgage instruments adapted to current market conditions; in that case, the problem can be solved by redesigning instruments. On the other hand, good housing may be unaffordable simply because of unduly low income. This is where the income distribution question arises. Ten of the 12 agencies set income criteria in establishing eligibility for their programs. The income threshholds vary among programs, even among those delivered by the same agency.

The stabilization of construction is an economic objective of three agencies, accounting for 68 per cent of loans outstanding. There appear to be two main reasons for the adoption of this objective. One is that fluctuations impair the productive capacity of the industry and increase construction costs, which may make it desirable to insulate this sector from general economic conditions. The other rationale is to supplement macroeconomic stabilization policies through measures designed specifically to stimulate construction.

Finally, agencies often have programs to deal with imperfections in the land market – land assembly and land lease, loans and grants for sewage treatment, and so on. In conjunction with the CMHC, seven provinces have set up land-assembly and development programs during the early 1970s, when there was special concern over the operation of land markets and the impact of speculation. These loans and grants were made to municipalities, however; thus they are outside the area of direct government assistance in the private sector.

Although the objectives can be categorized, it is not easy to assess the effects of government presence in the mortgage market, because the instruments used are rarely aimed at a single objective. When government intervenes in the housing sector, it often seeks to achieve several objectives through a single, complex instrument.

A good illustration of this is the case of a low-income person who wishes to purchase a house but has fallen victim to a credit gap at a time when the construction industry is experiencing difficulties. This individual is eligible for mortgage loans on several grounds, since he can apply for these loans under programs designed to fill in a credit gap, redistribute income, and stabilize construction. Rather than obtain a subsidized second or third mortgage, however, he will receive a single loan designed to meet all three objectives simultaneously. Thus there is no one-to-one correspondence between the instruments and objectives. Nonetheless, one has to assess government involvement in the housing finance market on the basis of each objective, beginning with those related to the financial market.

Improving the Mortgage Insurance Market

Although the formal objective of NHA insurance is to increase and stabilize the volume of mortgage credit, its immediate goal is to fill a gap in the insurance market and to help to alter the characteristics of mortgages in order to improve the operation of the market. Historically, by insuring risks not covered by the private sector, it contributed to the development and maintenance of the flow of funds into housing. In addition, the eligibility criteria for NHA insurance helped to develop new mortgage instruments that were better suited to the needs of the day.

Initially, NHA insurance filled gaps attributable at least in part to government regulations that limited mortgage loan-to-value ratios for uninsured loans granted by financial institutions. Although the imposition of maximums on loan-to-value ratios for uninsured loans by some financial institutions had a valid rationale – the protection of depositors – there was no evident justification for the requirement that high-ratio loans be insured under the NHA. There was a reason for insurance, but not necessarily for public insurance.

In 1963, Holborough Investments Limited (since renamed the Mortgage Insurance Company of Canada – MICC), the first private insurer of conventional loans, was established. But the portion of high-ratio loans above the then-permitted loan-to-ratio value had to be supplied by investors other than those regulated by legislation involving life insurance, trust, and loan companies. It is only since 1970 that these regulated financial institutions have been permitted to accept private insurance coverage on

high-ratio loans, which can also be offered in competition with NHA insurance provided by the CMHC. In the wake of these changes, two other mortgage insurance companies emerged (Sovereign and Insmor), bringing the number to four, including the CMHC. Towards the end of the 1970s, the CMHC and the private sector shared the mortgage insurance business about equally. The number of private insurers was reduced with the merger of Insmor with Sovereign, and the merger in 1981 of the Insmor Mortgage Insurance Corporation with MICC cut their number to one.

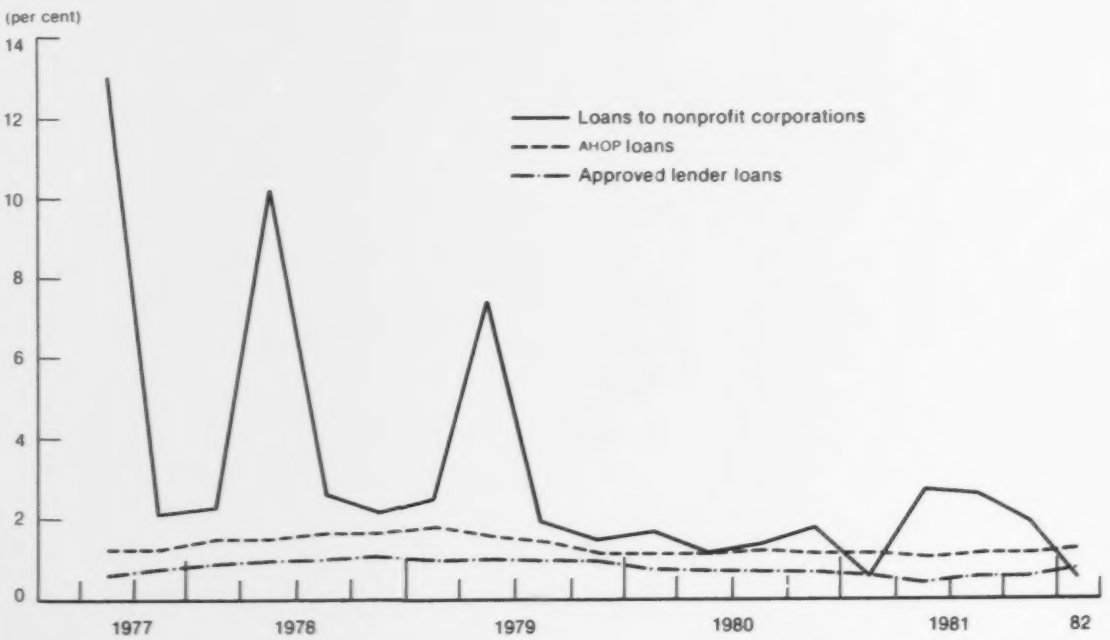
The NHA insurance cost consists of a fixed application fee, plus a percentage of the insured value, both payable on disbursement of the loan. For new homes, the premium was set at 2 per cent of the loan in 1954 and reduced to seven-eighths of one per cent in 1969. The single premium – or rather the absence of a scale of premiums – indicates a lack of risk differentiation. The premium on rental property loans was also reduced from 2.5 to 1.25 per cent in 1969.

These premium reductions were recommended by the Hellyer Task Force, which noted that premium income and loss recoveries had been quite sufficient to support insurance claims.[15] The premium reduction coincided with the legislative changes related to private mortgage insurance, facilitating the entry of private insurers. These companies charged higher premiums than the CMHC. This was made possible in part by the statutory limits on the individual loans eligible for NHA insurance. Because of these limits, the borrowers of larger amounts had to turn to other sources.

In recent years, the premiums charged by the CMHC have been insufficient to cover the cost of claims on the Mortgage Insurance Fund (MIF). In 1980, the Fund registered an actuarial deficit of $80 million, primarily as a result of losses on AHOP in Mississauga and ARP in Montreal West, which are expected to increase cumulatively to $145 million and $225 million, respectively.[16] It should be pointed out that the losses recorded by the Fund are primarily

Chart 5-3

Proportion of NHA Mortgage Accounts in Arrears for Three Months or More, Canada, by Quarter, 1977-82



SOURCE Canada Mortgage and Housing Corporation.

attributable to specific categories of loans – AHOP and loans taken out by nonprofit corporations, often bearing interest of 2 per cent.

The number of claims on the Fund in 1979 exceeded the cumulative total since 1954. This created a serious liquidity problem for the Fund, which required it to borrow $227 million from the federal government in 1980. These loans are in the course of being repaid by the sale of the Fund's real estate holdings. The basic insurance application fee has also been increased, and the maximum loan-to-value ratio has been reduced.

Although it may raise adequate revenue, a single NHA premium for very broad classes of loans necessarily involves a cross-subsidization of bad risks by good ones. Such cross-subsidization is a sign of imperfect competition. If there were effective competition, several insurers would compete to cover "best risks," and this would force premiums to drop for this category, thus eliminating a portion of the cross-subsidization. It should be pointed out, however, that some cross-subsidy is unavoidable, because the CMHC uses this instrument to pursue nonfinancial objectives as well. The CMHC sets standards for energy conservation and the use of metric measurements in construction, for example, that must be met in order for a prospective borrower to qualify for NHA mortgage insurance. Recent and forecast energy price increases, together with the maturation of the metrification programs, no longer require NHA insurance to pursue these objectives. The Mortgage Insurance Company of Canada charges higher premiums for less coverage than the CMHC, while the loans insured by the latter generally involve a higher risk, as demonstrated by a comparison of the claims submitted to both firms (Table 5-6). Consequently, the CMHC has room to raise its rates in order to better cover its costs without becoming uncompetitive and, at the same time, to reduce the present cross-subsidy of risks. The latest amendment to the National Housing Act empowered the Corporation to determine its own rates, giving it the opportunity to adjust its premiums in accordance with risks.

Whereas the CMHC has only one premium for insurance of mortgage loans for existing housing (0.875 per cent of the loan amount), MICC has four different premiums. They range from 1.25 to 1.75 per cent, depending on the loan-to-value ratio and on whether it is a standard or an unconventional loan. As a comparison, a survey of the mortgage insurance industry in the United States revealed that there are about 190 class rates for single-premium plans and a number of annual-premium plans.

The Role of the CMHC

The NHA insurance has been instrumental in improving the characteristics of mortgage loans and has made them more attractive to institutional lenders. Before 1954, the portion of mortgages held

Table 5-6

Claims on CMHC and MICC[1] Mortgage Insurance, Canada, 1975-81

	1975	1976	1977	1978	1979	1980	1981
				($ Billions)			
Insurance in force							
CMHC	13.9	15.1	17.9	21.3	26.4	29.2	26.8
MICC	5.7	7.0	8.4	10.7	13.5	13.3	20.0
				($ Millions)			
Claims, including legal and other attendant cost							
CMHC	16.9	13.1	46.9	181.8	499.1	491.9	408.8
MICC	2.8	4.0	8.8	20.6	28.2	42.6	52.0
				(Dollars)			
Claims per $1,000 of insurance							
CMHC	1.2	0.9	2.6	8.5	18.9	16.8	15.2
MICC	0.5	0.6	1.0	1.9	2.1	3.2	2.6

1 MICC insurance and claims on it include those on new home warranties, second mortgages, condominium deposits, commercial/industrial loans, and lease guarantees; 1981 figures include the Insmor Mortgage Insurance Company.

SOURCE Canada Mortgage and Housing Corporation, *Canadian Housing Statistics*, 1981; and MICC Investments Ltd., *Annual Report*, 1980 and 1981.

by individuals was roughly equal to that held by private institutions. It steadily declined until 1970, however (Chart 5-2). This trend meant more than a simple substitution of one source of financing for another. The increased involvement of private intermediaries led to the standardization of mortgages, which promoted competition between lenders and thus improved the position of borrowers by enabling them to obtain more favourable terms.

In providing mortgage insurance, the federal government clearly performed a useful market-making function. The question now is whether, following the development of private insurance, it should abandon this field. Given the fact that there is only one private mortgage-insurance company, it is desirable that NHA insurance be continued to maintain competition in a market that might otherwise be monopolized. If the CMHC intervenes in this context, competitive NHA premiums should be established on the basis of the risks involved.

Since NHA insurance also included a cross-subsidy, it was useful in achieving some nonfinancial government objectives in the areas of energy conservation and metrification. It is not possible, however, to use a single instrument to achieve several goals at the same time, and better instruments are available for achieving some of these nonfinancial objectives.

The CMHC could induce increased competition in the field of mortgage insurance by eliminating its subsidies and covering all of its costs through a scale of premiums differentiated according to risk. This would require, however, that the Mortgage Insurance Fund be kept completely separate from the social programs of the CMHC.

Furthermore, the CMHC need not remain in the primary insurance market to fulfil its role. It could gradually direct its activities towards reinsurance, thus opening the door to new Canadian companies or subsidiaries of foreign companies and actively encouraging their entry into the direct-insurance market. Therefore,

15 We recommend that the Canada Mortgage and Housing Corporation gradually withdraw from the direct insurance area and offer mortgage reinsurance instead. We further recommend that the premiums charged differentiate between classes of risks and that they be established at a level that covers the costs of operation and maintains a sound level of reserves.

This recommendation follows those of the Matthews Report, which found that the Corporation's rate structure is not adapted to its objectives.[17] As mentioned earlier, some steps have already been taken to remedy the situation.

Improving the Mortgage Loan Market

Credit Gaps and Market Rigidities

At the present time, there does not seem to be a widespread shortage of funds in the mortgage loan market, but this has not always been so. To some extent, the government programs introduced in 1935 were intended to fill perceived gaps in the mortgage market. These gaps had resulted from the regulations that imposed a ceiling on mortgage rates and prevented some financial institutions, such as chartered banks, from being actively engaged in residential mortgage lending. The greatest problems, however, stemmed from the fact that the Great Depression had severely weakened the mortgage lending institutions.

After the Second World War, credit gaps were most likely to be found in remote and rural areas and in old urban neighbourhoods. As a result of the limited competition caused by government regulations, lenders were in a position to stay out of these more costly and less lucrative markets. The Porter Commission received evidence that private lenders preferred to support postwar suburban subdivisions rather than make loans on older housing in city cores.[18] A recent study has shown that governments had preferences similar to those of the banks and the trust companies, leaving individuals and credit unions as principal lenders on older and lower-cost houses.[19]

The CMHC was lending proportionally more outside metropolitan areas than other approved lenders.[20] In doing so, it may have filled genuine gaps, but by lending at noncompetitive rates it may also have discouraged private lending institutions that were willing to enter those markets. For example, the CMHC applied a single lending rate to all borrowers, while conventional rates varied from region to region, reflecting differences in lending cost, risk, and quality of security. In 1967, the conventional rate charged by lending institutions ranged from 8 per cent in Quebec to 8.98 per cent in Manitoba. Rigid CMHC rates did not approximate competitive rates in every region, which means that loans made to fill credit gaps had a built-in subsidy.[21]

The entry of chartered banks into the mortgage lending market (NHA-insured loans for new housing in 1954 and without restrictions as to the type of loan in 1967), together with their branch network and the removal of rate ceilings in 1967, has tended to unify mortgage rates across the country, leaving cost and risk differentials to be reflected in loan-to-value ratios and other lending terms. These changes, in effect, eliminated much of the credit-gap rationale that had theretofore supported government intervention in the mortgage market.

Other rigidities in mortgage lending have been removed by the progressive integration of the mortgage market with other capital markets since the late 1960s and by the shortening of loan maturities. The shortening of terms to maturity eliminated some of the lender's interest risk, given the earlier repayment horizon; this, in turn, increased the liquidity of mortgage portfolios. The advantages derived by lenders from lesser risk and greater liquidity reduced the demand for secondary mortgages. As a result, the proposal to establish a Federal Mortgage Exchange Corporation (Bill C-135) was dropped.

The removal of these sources of market rigidities helped to ensure an adequate flow of funds into housing, thus explaining the withdrawal of some provinces from this field. The Chairman of the Board of the Ontario Mortgage Corporation noted in the corporation's 1978 annual report that "as a result of slow market conditions and a more-than-adequate supply of mortgage funds made available by the private sector, the corporation found it unnecessary to participate in the mortgage market."[22] The 1980 annual report of the CMHC also pointed out that "actions have been taken over the past three or four years to achieve increased reliance on private rather than public capital funding for housing and related purposes."[23]

Gaps may still be found in the supply of mortgage loans to native people or to residents of remote and isolated areas. Before attempting to develop corrective programs, it is important to determine why these borrowers have been denied credit. It may be that lenders would supply credit if an adequate risk premium could be added to the interest rate.

Barriers to adequate collection of information on potential borrowers may also contribute to the existence of a credit gap by causing erroneous evaluations of risks by private lenders. Reliable information could be conveyed to the private sector by successful public loans or through the premiums charged on public insurance of mortgage loans. The viability of government programs – and programs aimed at correcting market defects should generally be designed to meet such a test – would indicate to private institutions that the terms offered are commensurate with the risks involved. Government actions would thus have a demonstration effect.

The relative efficiency of government and private lending operations is a factor in the choice of the optimum instrument. As governments have reduced their lending activity, they should, in order to benefit from economies of scale, concentrate on mortgage insurance – an area in which they are already involved on a substantial scale. On the other hand, private nonbank lenders have very few offices in remote areas; as a consequence, their operating costs in these areas are very high. There remains, therefore, room for some form of government loan of last resort.

Distortions in the market are also created by government initiatives themselves. The Municipal Incentive Grants offered by the CMHC in conjunction with some provinces are an example of measures adopted by one level of government in an effort to correct the distortions caused by another. The purpose of this program is to offset attempts by some municipalities to expand their tax base by favouring expensive, low-density construction. Another example is the Assisted Rental Program (subsequently replaced by the Graduated-Payment Mortgage Program), which was designed to compensate for the market distortions introduced by rent controls.

Problems of Access to Homeownership

Apart from the existence of gaps in the mortgage loan market, governments have also been deeply concerned with the affordability of homeownership. According to CMHC estimates, 42 per cent of housing needs in Canada were not met in 1979 for the sole reason that housing was unaffordable at prevailing prices, based on a maximum gross debt-service ratio of 30 per cent. It was also estimated that another 19 per cent of unsatisfied housing need was related to unaffordability in conjunction with inadequacy and/or crowding problems. [24]Although they must be interpreted with caution, these estimates do indicate that affordability is the most important housing problem in Canada. This problem, however, is not necessarily explained by an inadequate level of income, as it may result from the lack of an appropriate mortgage financing instrument.

There are a number of facets to the problem of affordability – the cost of renting faced by tenants, the cost of owning a home, and the cost of acquiring a new home to first-time buyers.[25] To assess each of these costs and their effect on access to housing, it is necessary to consider changes that have occurred in some components of the consumer price index (used here as a cost indicator), and to relate these to changes in personal income.

The rent component of the consumer price index (CPI) has generally not increased as rapidly as average incomes over the past 20 years. Of course, the picture conveyed by these averages does not reflect precisely the situation that any particular individual has to face.

The rental-equivalent component of the CPI that is employed to measure homeownership costs takes account of the estimated average monthly mortgage

payments. This index is based on the assumption that only a given number of individuals buy a house or refinance their mortgage each year; thus it implies that the costs incurred by other homeowners do not vary. As a result, the index underestimates the true costs in periods when the inflation rate is increasing rapidly. Also, the housing component of the CPI tends to understate the costs to homeowners because it includes the cost of renting, which does not affect the homeownership cost. Rental costs have lagged far behind the rise in costs generally, increasing by 31 per cent from 1976 to 1981, while the costs of owned accommodation rose by 54 per cent.

After rents were excluded from the calculation of the housing cost index, it was found that the cost of homeownership still had not risen as fast as average income. The same conclusion could be reached when the index was computed as if all homeowners had just acquired their property and were facing today's prevailing mortgage interest costs. Even based on this somewhat extreme measure, the average cost for first-time home buyers had increased at a slower pace than average income. There are always exceptions, of course, particularly in those areas where house prices have increased more rapidly. Over the long run, however, regional variations in house prices have been much less pronounced.

Given the fact that homeownership also involves an investment decision, an analysis of the income and expenses of homeowners should include the capital gains (or losses) on the acquired property and the opportunity cost of the funds invested, including equity, at current interest rates. Such a calculation would show that, on average, homeowners fared quite well financially during the first half of the 1970s, as capital gains were made at annual rates close to, and sometimes exceeding interest costs. The situation did not necessarily turn out to be as favourable on a cash basis, of course, because capital gains are not realized until a house is sold. Nor is the opportunity cost of equity paid in cash, so that the difference between a homeowner's on paper and in cash depended on the ratio of his equity to his total investment.

The rapid increase in nominal interest rates during the 1970s helped to create the impression that first-time home buyers were disadvantaged, compared with those of the 1960s. But throughout this period, real interest rates remained unchanged – or even decreased – and the spread between nominal and real rates increased considerably, reflecting high inflation rates. While the sudden rise in real interest rates in 1982 may have caused the situation to deteriorate somewhat, homeowners during the 1970s were not at a disadvantage in real terms, despite the fact that they did find themselves confronted by a cash-flow problem, caused by the manner in which the standard mortgage is adjusted to inflation.

The interest rate on a standard fixed-payment mortgage loan incorporates, among other things, the rate of inflation expected during the life of the loan. Any adjustment made to the interest rate to account for inflation at the time of mortgage renewal will therefore result in an increase (or a decrease) in the monthly payment. If the interest rate is 7 per cent during a period of price stability, as in the 1960s, it will rise to approximately 17.7 per cent when inflation is expected to average 10 per cent. This represents a 153 per cent increase, while the borrower's income only rises by 10 per cent annually, on average. This discrepancy makes the purchase of a house an unaffordable proposition, at least during the first years for potential buyers who, in any event, would spend a large proportion of their income on housing. It could be expected that in future years the homeowner's income will increase, but except for the real-estate tax component his monthly payments will not change. The burden imposed by the mortgage payments will gradually become easier to bear, once the borrower overcomes the initial cash-flow problems associated with a high initial debt-service ratio.

It should be noted that the resale value of a house increases as a consequence of inflation, while the mortgage loan is gradually amortized with each monthly payment. The difference between the resale value and the debt outstanding is the homeowner's equity, which increases quite rapidly when interest and inflation rates are high. The accelerated accumulation of equity may, in itself, be a desirable goal, but the obvious question is whether it is justifiable for the borrower to pursue such a goal if he has to struggle continuously to meet his monthly payments.

An extension of the amortization period permits a reduction of the monthly payments. Between 1961 and 1977, the proportion of NHA loans amortized over a period of 25 years or less fell from 95.4 to 74.3 per cent for loans extended by approved lenders, and from 82.9 to 16.7 per cent for CMHC loans. The amortization period is therefore longer now, but the extent to which the debt-service ratio – the monthly charge, including property taxes, relative to gross income – can be reduced by extending the amortization period is smaller the longer the initial amortization period and the higher the rate of interest.[26]

As a result, the burden of mortgage payments has become heavier over the past 15 years, despite the efforts that have been made to alleviate it. The proportion of NHA loans granted to borrowers whose gross debt-service ratio exceeded 27 per cent has

thus increased from 12.1 to 60.3 per cent for CMHC loans between 1961 and 1976, and from 10.2 to 39.9 per cent for loans made by approved lenders. These borrowers included both first-time buyers and homeowners who chose to increase their indebtedness as part of their portfolio management strategy. In this regard, it must be noted that down-payments have substantially decreased over the last two decades; this has contributed to a higher mortgage burden in periods of high interest rates. In 1961, for example, down-payments represented on average 15.4 per cent (CMHC) and 19.1 per cent (approved lenders), but in 1977 the proportions had fallen to 7.9 and 16.6 per cent, respectively. These data underscore the importance of finding ways to modify mortgage lending instruments in order to reduce the debt burden of borrowers, both for access to homeownership and for investment portfolio management purposes.

The Need for New Mortgage Instruments

The new "graduated-payment mortgage" (GPM) introduced by the CMHC in 1978, as well as more recent initiatives taken by banks and other lenders in an effort to meet their client's needs, represent a shift away from fixed monthly payments aimed at alleviating the burden of high initial payments. These mortgage instruments allow for lower monthly payments initially, as interest charges are deferred until later. Some lenders also offer variable-rate mortgages, with the option of postponing payment of part of the interest accrued. The extent to which these measures can provide relief is limited, however, because payments are not graduated in direct relationship to the expected inflation and interest rates, and because the payments of interest to depositors whose savings are being used to finance mortgage loans are not similarly graduated and deferred.

Another possibility would be to introduce shared-appreciation mortgages, in which a lower interest rate would be offered by the lender in exchange for a share in the capital gain on the property. This type of mortgage instrument is already available for commercial properties and, in the United States, for residential properties as well.[27]

It should be noted that, given the uncertainty about inflation and interest rates, it has become more difficult for lenders to attract term deposits and, consequently, to offer longer-term credit. This explains in part the disappearance of fixed-interest, long-term mortgages; the five-year rollover mortgage loans which eventually replaced them are themselves offered less frequently today. Thus, it has obviously become more difficult to solve the problems associated with high initial payments by resorting to graduated payments and deferred-interest arrangements.

The partial substitution of vendor credit for institutional loans in recent years indicates that banks and trust companies, in particular, seem to have exhausted the possibilities for adjusting traditional mortgage instruments to inflation. The greater role of vendors in the mortgage market results from their ability to offer, at a lower cost, GPMs or loans on which interest is deferred. Because they are in a position to take advantage of tax-free capital gains on the sale of owner-occupied homes, vendors have an advantage over financial institutions in the market for new lending instruments. By combining low interest rates and high selling prices, vendors are in effect exchanging interest income for tax-exempt capital gains. The lower monthly payments (because of the lower rate of interest) are a relief to the buyer that outweighs the burden of the higher debt incurred to pay a higher price for the home (see Appendix F).

The limited success obtained in attempts to modify conventional mortgage instruments and the increasing market share of vendors are explained by the fact that adding an inflation premium to real interest rates is the least attractive way to adjust mortgage loans to inflation. Another approach would be to index the balance outstanding on the loan – to produce, in fact, an "indexed" mortgage. There has been recently renewed interest in Canada for indexed mortgages, and the federal government has contemplated, in a paper accompanying its June 1982 budget, the possibility of offering such instruments to some borrowers.

The Indexed Mortgage

Comparison with other types of mortgage loans

In a standard mortgage agreement, the creditor advances to the borrower a given sum at a nominal interest rate that incorporates a premium for the expected rate of inflation, for the risk of default on the loan, and for the risk that the rate of inflation will turn out to be higher than expected. The borrower undertakes to make monthly payments covering interest charges, amortization of the principal, and property taxes (if they are blended in), over a pre-established amortization period. The monthly payments are usually fixed, except for variations in property taxes, and the balance outstanding decreases with each payment. Adjustment to inflation is done by means of the interest rate and is thus reflected in the size of the monthly payments.

In the case of an indexed mortgage, the parties agree on a real rate of interest that will be fixed for

the duration of the loan. Adjustment for inflation is made by increasing the balance outstanding in accordance with an index reflecting the rate of inflation, such as the consumer price index. The adjustment can be made monthly or annually, and monthly payments will increase (or decrease) as the borrower must pay a real rate of interest on the larger (or smaller) amount outstanding. An alternative is to keep monthly payments fixed and to lengthen (or shorten) the amortization period. In this way, the stream of monthly payments can be tailored to match more closely the borrower's income and the value of his property.

Home buyers who enter into a mortgage agreement of this type during a period of inflation will carry essentially the same burden as borrowers who have contracted a fixed-rate, long-term mortgage in a period of relative-price and interest-rate stability. If the rate of inflation is 10 per cent, the debt burden and the present value of the stream of payments over the life of the loan will be the same for a standard, fixed-payment mortgage at 17.7 per cent and for a mortgage on which the interest rate is 7 per cent with the capital indexed by a factor of 10 per cent. Over their life, both loans will be equivalent to a 7 per cent standard mortgage in a noninflationary context, neglecting possible differences in risk and in the taxation of accrued interest. The two mortgages will differ, however, at any given point in time before maturity. The payments on a standard mortgage decline in real terms over time, while the indexed payments recreate the conditions that would prevail in a situation of price stability.

The indexed mortgage differs from a graduated-payment mortgage in that payments are graduated over the entire amortization period of the loan, larger periodic adjustments of the monthly payments allow for a lower interest rate, and the real rate of interest is set for the life of the loan. With the existing GPM, the graduation is limited to 5 per cent annually, regardless of changing economic conditions. This rigid formula does not allow the government to protect borrowers from the effects of high interest rates without subsidizing them.[28]

Indexation and Inflation

While monthly payments under an indexed loan will vary in line with the adjustment of the balance outstanding, the illustrations provided in Appendix F under different inflation scenarios show that these mortgage instruments are better suited in a period of inflation. The rate at which the borrower's equity grows under an indexed-mortgage scheme is slower than in the case of a standard mortgage, but the initial debt-service ratio is also substantially lower, thereby alleviating the cash-flow problems faced by the borrower. Indexation ceases automatically upon the return to price stability. In the event of price deflation, the balance outstanding and the monthly payments would fall, but not to the extent of shortening the amortization period. The frequency at which the monthly payments and the principal outstanding can be adjusted and the extent to which indexation is applied (total or partial) can be left to the decision of borrowers and lenders.

Indexed mortgages present some risk, because the borrower's income or the value of his property may not increase as fast as inflation. This risk, however, is not attached only to indexed loans. Real incomes and property values can also fall during a period of price stability, and default rates may be higher in a period of moderate price increases than in a period during which prices rise more rapidly. This risk can be reduced by a more careful qualification of borrowers and property appraisal, regardless of the type of financing selected.

It could also be argued that loan indexation appears to institutionalize inflation. The introduction of such a measure may appear to signal that the major participants in economic activity do not expect inflation to abate or to fall significantly in the foreseeable future. Note, however, that standard mortgages are already adjusted to inflation, since mortgage interest rates incorporate an expected rate of inflation. Thus inflation adjustment itself is not at issue, but only the method of implementing it. Given the social value attached to housing and the importance of the affordability issue, governments will contemplate, as they did in the past, the introduction of various measures to make housing more easily affordable and to encourage construction activities. The alternative to indexed loans may be government subsidies; this could substantially increase budgetary deficits and eventually have an adverse effect on price stability.

Other Advantages

Indexation has potential benefits that extend beyond helping first-time home buyers or adjusting mortgage loans to inflation. It could also facilitate an orderly reduction in inflation and encourage the recovery of the private market for long-term loans. The fight against inflation claims many casualties, as indicated by the growing number of personal and corporate bankruptcies. As a consequence, the risk associated with lending has increased, particularly in the long-term market, and nominal interest rates are prevented from falling in line with inflation. The introduction of indexed loans could decrease the risk resulting from inflation and help to narrow the gap

between the rate of inflation and the inflation premium built into nominal interest rates.[29]

In an inflationary context, borrowers will naturally prefer a long-term, fixed-rate mortgage over an indexed loan. Home buyers in the mid-1960s who contracted 30-year mortgages at rates of 7 to 8 per cent have, in fact, repaid their loans at a negative real rate of interest over the last 10 years. In recent years, however, fixed-rate mortgages have disappeared, and the inflation-related risk has been shifted entirely to the borrower. Currently, borrowers do not have a choice of long-term mortgage options – fully indexed vs. fixed rate; they can only obtain a short-term loan. The purchase of a house, however, whether for homeownership or investment purposes, represents the acquisition of a long-term asset that is better financed by long-term funds. Indexed mortgages would provide a new type of long-term financing instrument, and we expect that they would be favourably accepted by borrowers, as more traditional mortgages will become increasingly difficult to obtain from private financial institutions.

Problems and Solutions

The introduction of indexed mortgages raises several practical issues. How could a financial intermediary offer an indexed loan and receive payments based on a real rate of interest when depositors require a return that incorporates an inflation premium? Will the increase in the loan balance outstanding be considered as an income or as a capital transaction for tax purposes? If it is to be treated as income, the lender's initial cash-flow problems will be compounded, since he will have to pay taxes on income not yet realized. An increase in an indexed balance outstanding is, in fact, a contingent asset and not a payment received. These two problems explain the relative lack of success, so far, with graduated-payment mortgages, as well as the reluctance of some lenders to consider interest-deferral schemes.

These problems, however, do not significantly affect certain financial institutions which can be encouraged to supply new types of long-term mortgage loans for a wide variety of uses. Indexed mortgages could be introduced and offered by their originators for sale to tax-exempt financial institutions such as registered pension funds. Indexed lending in this manner would not require major modifications in existing tax laws and would avoid otherwise possible adverse effects these modifications may have on financial markets, resource allocation, and social equity.

In this respect, government could again play a leading role in the mortgage market by promoting the adoption of a new long-term financial instrument. Consequently,

16 We recommend that governments encourage the introduction of indexed mortgages for sale to pension funds and registered retirement savings plans and that the Canada Mortgage and Housing Corporation offer, on a temporary basis, direct insurance of such mortgages. We further recommend that governments promote the development of a secondary market for these mortgages.

Indexed mortgages can facilitate access to housing without having to subsidize first-time buyers and present owners who must refinance their mortgage loans at high interest rates. They would also provide at least a partial solution to cash-flow problems experienced by the owners of rental properties.

Indexed mortgages would help to restore the long-term loan market and would make a good match for the pension funds' liabilities. If insured by the CMHC under the National Housing Act, indexed mortgages would qualify as pension-fund investment under Schedule III(6) of the Regulations to the Pension Benefits Standards Act. Certain legal aspects with respect to mortgage loan contracts including indexation clauses may have to be considered.

The importance of restoring the long-term mortgage market cannot be overemphasized. Short-term mortgages make it even harder to achieve government housing objectives, whether they be to improve the quality of the housing stock or to stabilize the level of activity in the construction sector.

We noted earlier that the potential for growth in mortgage credit is substantial. The existing stock of owner-occupied houses could serve to provide collateral security on conventional loans for an additional $200 billion. To some extent, of course, these loans could be used to refinance or consolidate the owners' personal debts. Another part could serve to finance the establishment of small businesses.

The introduction of this new type of mortgage instrument would reduce, but not eliminate, the need for direct government intervention to fill market gaps. Government loans to native people and to other persons residing in remote areas would still be required. Therefore,

17 We recommend that governments continue to serve as lenders of last resort for borrowers who cannot otherwise obtain mortgage loans on competitive terms.

The effect of this recommendation is to give greater priority to government lending where there is a real need to fill a credit gap. The rate charged in this context is crucial. There is always a shortage of

loans at rates below the market rate, and gap-filling programs should not create an artificial demand but concentrate on correcting real deficiencies in markets. In saying this, we do not deny that subsidies can play a useful role, as we explain below, but it should be emphasized that they can also hinder the delivery of residential mortgage loans to those who are affected by credit gaps.

Improvement of the Housing Stock and Income Redistribution

Both the enabling legislation and the annual reports of public mortgage agencies reflect concerns about the social value of housing, the redistribution of income, and the needs of persons with very low incomes. These concerns, in turn, reflect a belief that all Canadians have a right to a minimum standard of housing. They stress the underconsumption of housing services in the disadvantaged segments of the population and suggest that lower-income groups will not have adequate shelter in the absence of government programs. The goals of improving the housing stock and of redistributing income are thus closely related. Several instruments are available to governments in the pursuit of these objectives: subsidized loans, grants, tax incentives, as well as the construction and management of residential units to provide accommodation for low-income individuals.

Indirect Subsidies

By subsidizing mortgage credit, governments could effectively influence housing choices and alter the distribution of income, but this approach should be followed only if it were less costly and more effective than other financing formulas. This is not necessarily the case, however, as subsidized mortgage loans are not well suited to the pursuit of these objectives, with the result that this policy instrument has generally been inefficiently applied in the past.

Subsidized loans stimulate the demand for housing. It has been estimated that AHOP subsidies increased demand by between 35 to 40 per cent and that ARP subsidies may have had a still larger impact on demand, because of the constraints imposed by rent controls on the construction of rental units.[30] This effect on demand, however, must not be mistaken for an effect on housing. The latter depends also on the availability of funds to meet the demand induced by government incentives and on the effect on interest rates and on housing in particular of borrowings by government to fund its mortgage loan agencies. Another effect of subsidies is to induce the borrower to substitute a loan for his own equity without increasing his total investment. Perhaps this explains why subsidized loans often cover the entire purchase price.

When subsidies are associated with a loan granted by private lenders, rather than incorporated in a government loan, the return to the lender is increased and the cost to the borrower is reduced. The results of simulations made with the CANDIDE 2.0 model indicate that the benefit of the subsidy is shared by the lender and the borrower (Table 5-7).

If government borrows to finance mortgage subsidies, the effect is to push up interest rates generally. The resulting increase in the yield to lenders is almost as large as the reduction in interest costs to borrowers. A subsidy of 200 basis points for all new NHA loans reduces the NHA rate by only 106 basis points, because of the upward pressures on interest rates. If the subsidy is financed out of new tax revenues, however, a larger proportion of the benefit is passed on to borrowers. A tax-financed subsidy has a slightly larger effect on interest rates and on the level of new housing starts, while it has a smaller effect on the total volume of loans approved.

These simulations take into account the financing requirements of government and their effects on financial markets – as indicated by the changes in bond yields and conventional rates; they are also based on the assumption that government supplies sufficient funds to subsidize all new NHA loans but restricts their overall level to one-half of the volume of mortgage approvals. The resulting stimulus on demand is of modest magnitude. It is estimated that a subsidy of 17 per cent of the cost of the loan would cause new housing starts to increase by only 1.8 to 2.2 per cent by 1987.

Since mortgage subsidies have only a limited effect, other policy instruments might be more appropriate to pursue government objectives. If governments seek to improve the quality of housing and are willing to absorb the cost of related initiatives, then a program that reduces the cost of shelter will be more effective than subsidizing loans. Such a cost reduction can be achieved by acquiring rental buildings and charging rents lower than those prevailing in the market, by providing shelter allowances, or by giving renovation grants. As pointed out in a paper prepared for this report, none of these measures seem to require government intervention in the mortgage market.[31]

The Choice of Beneficiaries

The choice of the recipients of government assistance is an important element to be considered in the assessment of the efficiency of public intervention.

Table 5-7

Simulated Effects of Additional Mortgage Loans and Subsidies, Canada, Selected Years, 1982-87[1]

	Additional CMHC loans of $1 billion per year[2]						CMHC subsidy on all new NHA loans (200 basis points)					
	Using borrowed funds			With increased taxes			Using borrowed funds			With increased taxes		
	1982	1984	1987	1982	1984	1987	1982	1984	1987	1982	1984	1987
	($ Millions)											
Change in loans to CMHC (net)	659	366	55	660	370	69	810	1,198	1,661	812	1,202	1,683
Mortgage approvals for new single dwellings												
CMHC	1,000	1,000	1,000	1,000	1,000	1,000	–	–	–	–	–	–
Private	-1,114	-1,263	-1,267	-1,118	-1,291	-1,314	128	128	146	123	84	60
Total approvals	1,002	1,006	995	997	958	910	73	134	201	64	41	18
	(Basis points)											
NHA mortgage rate	-1	-4	-7	-6	-16	-29	-104	-117	-106	-110	-133	-143
Conventional mortgage rate	1	2	2	-4	-11	-22	5	10	26	-1	-6	-13
Yield of long-term Government of Canada bonds	5	7	10	-	-3	-9	5	12	27	-	-2	-5
	(Thousands)											
New housing starts	8.3	7.1	5.5	8.4	7.3	6.1	3.6	5.0	3.6	3.7	5.1	4.4

1 The results are deviations from a base case.
2 For new, single detached dwellings.
SOURCE Estimates by the Economic Council of Canada, using the CANDIDE 2.0 model.

Efforts to improve the housing stock and to redistribute income are based on the assumption that there is an underconsumption of housing services. In other words, governments are convinced that some Canadians are not enjoying adequate shelter.

Previous inadequacies in Canada's housing stock have been largely removed, however, especially those related to overcrowding and lack of sanitary facilities, with the result that there is no longer a need for large-scale public intervention. In effect, many recipients of government assistance – under the Assisted Rental Program, in particular – already had adequate accommodation. The ARP helped to finance dwelling units of good quality, but in most cases the eligibility criteria for assistance did not include the quality of the housing unit previously occupied by the applicant. Besides, assistance was received by only a small fraction of the eligible households, thus increasing disparities in housing standards among individuals with similar incomes.

A distinction must be made between housing and homeownership. Access to homeownership and minimum standards of shelter are quite different issues. Shelter can be provided in owned and rented accommodation. While government agencies provide assistance to the construction of both types of dwellings, there is no clear direction as to which option is socially preferable, and for what reason.

If the intended goal is to alter the distribution of income by granting subsidized loans, then one must conclude that the beneficiaries are not selected in a manner consistent with the realization of this objective. An analysis of the clientele of government housing programs designed to help low-income persons indicates that while the choice of beneficiaries sometimes worked in the intended direction, it was, as is explained below, unsystematic and somewhat wasteful, and it had little effect on the distribution of income.

Subsidization and Equity

The programs that have income redistribution as one of their objectives have, when considered in isolation from other programs, satisfied the goal of vertical equity to the extent that they provided greater benefits to low-income households. They also caused horizontal inequities, however, since many households who qualified for assistance on the basis of their income level were unable to take advantage of the programs. As the rate of participation in the

programs tended to increase with the income of recipients, the inequity was most strongly felt in the lower-income groups. The following examples involving the CMHC will illustrate our point.

The NHA and CMHC loans favoured middle-income home buyers. Low-income persons who did not qualify for such loans had to find other sources of finance. Thus the percentage of low-income persons with mortgages is greater than the proportion of those who receive NHA loans (see Table 5-8). For example, close to 10 per cent of homeowners with incomes of $10,000 or less had a mortgage, but less than 5 per cent of the recipients of AHOP loans belonged to that income class. One reason for this is that CMHC construction standards put the cost of CMHC- and NHA-financed houses beyond the reach of some low-income households.

In the case of Non-Profit Housing, the program did not redistribute income, as measured in terms of welfare, between tenants who received assistance. In terms of government outlays, this program was even regressive, as it was less effective and wasted more resources on tenants in the higher-income range. One reason for this is that there were no procedures for regularly recording the characteristics of tenants, except for unaudited returns submitted every three years. If a building had vacancies, the CMHC frequently eased or even waived the income ceilings.

As for the Assisted Home Ownership Program, it had the peculiar characteristic that once a purchaser's gross debt-service ratio reached its allowed upper limit, the incremental cost of housing to him was actually zero, since governments were granting additional subsidies to hold monthly payments constant. The lower limit on the value of qualifying houses implicitly imposed by CMHC building standards caused participants to be drawn primarily from middle-income groups. Within this client group, the zero-incremental-cost feature produced a clearly progressive redistribution. Against this progressivity must be set the fact that participation rates increased with income and that the benefits provided under this program were higher than those accruing to lower-income groups in rental projects.

In terms of economic welfare, the benefits to recipients fell short of program costs. Cash grants would therefore have been a more efficient instrument for income redistribution. Under a cash-grant formula, estimated cost savings would have been approximately 30 per cent. Even when measured in terms of outlays, the effects of these programs on the distribution of income were disappointing, because of the low proportion of the needy who actually received the benefits.[32] The proportion of households in a given income class who received benefits from housing programs varied between 0.1 and 0.8 per cent for AHOP and between 0.5 and 5.4 per cent for public housing programs. Given the large number of programs, none could reach a majority of the households eligible for government assistance aimed at redistributing income. The number of programs

Table 5-8

Distribution of Mortgages, Homeowners, and Renters, by Income Group, Canada, 1976 and 1977

	All homeowners with mortgages, 1977	NHA loans approved: All loans for new housing, 1976	NHA loans approved: Condominium loans, 1976 — Row	NHA loans approved: Condominium loans, 1976 — Apartment	NHA loans approved: AHOP section 6 NHA, 1975/76	Non homeowners, 1977	Homeowners without mortgages, 1977
			(Per cent)				
Income group							
$4,999 and less	3.2	0.1				27.5	18.9
$5,000 - $6,999	2.2	0.4	4.6	2.0	4.9	11.7	10.7
$7,000 - $9,999	4.5	5.7				15.4	13.1
$10,000 - $14,999	15.1	37.1			51.6	20.4	16.9
$15,000 - $19,999	22.6	26.9	66.5	56.0	28.5	12.9	14.3
$20,000 - $24,999	21.0	18.2	18.6	22.6	15.0	6.5	9.6
$25,000 and over	31.4	11.6	10.3	19.4		5.7	16.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
			(Dollars)				
Average income	22,383	17,433	17,650	20,192	15,431	10,807	15,619
Median income	20,570	16,180	..	..	..	9,176	12,160

SOURCE Central Mortgage and Housing Corporation, *Canadian Housing Statistics*, 1976; and Statistics Canada, "Home Ownership and Mortgage Debt in Canada, 1977" (Ottawa, July 1979).

could not be reduced, because redistribution was only one of several objectives pursued by government. Taken together, the programs having income redistribution as one of their objectives reached a larger proportion of eligible Canadians than was the case for the individual programs mentioned above, but their combined effect on income distribution was not necessarily greater than that of any particular program.

Indeed, the net effect of these programs on income distribution is uncertain. When the benefits accruing to low-income households from one program are smaller than those derived by middle-income people from another program, the combined effect of the two schemes is regressive. The level of assistance provided by any particular program bore no relationship to the support coming from other sources. Instead, a something-for-everyone approach was adopted, with new initiatives mounted for high-income households before the problems faced by poorer households had been dealt with.[33] This is not to say that these programs did not play a useful role in the pursuit of their other objectives.

Income redistribution is an important government objective. But our analysis has shown that government should not seek to achieve it through mortgage loan programs. Assistance provided under these programs has reached only a small proportion of the disadvantaged, and the benefits have been unrelated to their relative income positions or to the quality of their previous accommodation. In addition, such programs have been more expensive than alternative programs of equal benefit to the participants.

In short, the use of government subsidized loan programs has not always proved to be a success, whether the goal pursued has been to improve the quality of the existing housing stock or to assist low-income households. In the first case, we have already seen that a preferable policy option would be to provide direct grants. In any case, other instruments should be applied in the pursuit of these goals. Therefore,

18 We recommend that, where it is determined that housing conditions are inadequate and that public assistance is required, grants specifically addressed to the problem be preferred to loan subsidies. Similarly, we recommend that governments avoid using loans or loan insurance programs in their effort to redistribute income.

This recommendation relieves mortgage loan agencies from a task that has been found too difficult for them. In the past, the CMHC has recognized the problems associated with the pursuit of income redistribution policies and, in its annual report for 1972, the Corporation underlined the need to better coordinate such policies.

Stabilization of the Construction Industry

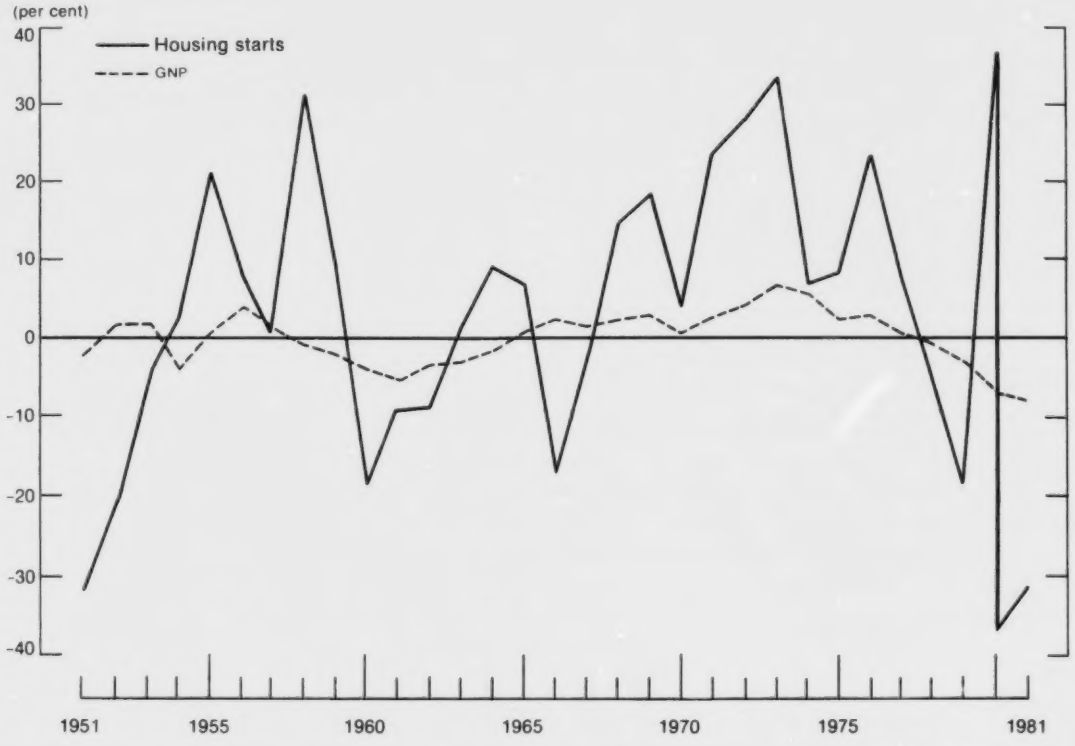
Housing expenditures affect the level of construction activity and, by extension, the overall level of economic activity. They are likely to have a strong multiplier effect because they involve the purchase of domestic goods rather than imports. The same cannot be said for mortgage loans, unless the funds are spent on new houses or on the renovation of existing homes.

In the past, government intervention in the mortgage market sometimes had a destabilizing influence. For example, during the period of administered NHA rates, the private sources of NHA loans dried up whenever market rates rose above the approved ceiling. On the other hand, whatever contribution to economic stability resulted from CMHC lending activities was probably inadvertent, except in 1958.[34] In its report on the construction industry, this Council found that measures adopted to stabilize the various segments of the construction sector had generally been unsuccessful, and it recommended "that future low-income housing efforts be organized and funded so as to ensure a smooth growth path over a period of years, on a regional basis, independent of any swings in other residential or nonresidential construction."[35]

There have been cases where government mortgage loans have unintentionally stabilized overall economic activity instead of construction activity. Fluctuations in housing starts during the 1951-80 period have been much larger and wider than fluctuations in the gross national product (Chart 5-4). A comparison of federal mortgage loans and general economic activity shows that, in six of the 11 periods covered, mortgage lending dampened economic fluctuations. During some of the other periods, lending began with a dampening influence, usually increasing when housing starts were low, but continued to grow when housing starts were rising, further stimulating the expansion at its peak. On balance, it is unclear whether mortgage lending has reduced or increased fluctuations in economic activity. When government lending was countercyclical, it could have substituted for private funds. These would then have been released for other uses, with the result that there would have been a general economic stimulus rather than the intended assistance to construction. Moreover, government lending has to be seen in the context of broader monetary and credit policies.

Chart 5-4

Deviation from Trend of GNP and Housing Starts, Canada, 1951-81



SOURCE George Fallis, "Governments and the Residential Mortgage Market," a paper prepared for the Economic Council of Canada, 1982.

Government mortgage loans do not influence the volume of credit so much as its composition and the manner in which monetary policy affects economic activity. When the Bank of Canada buys government securities on the open market, the federal government can sell new bonds to make mortgage loans. In this way, central-bank credit is channeled through the mortgage market. Without the support of the Bank of Canada, government would be making mortgage loans out of funds borrowed from the private sector, and no increase in the total supply of funds would take place. In either case, because of the fungibility of funds there may be little effect on housing, especially if government is granting mortgage loans on existing houses.

The effect of direct lending cannot be measured by the number of loans approved, nor by the number of new housing starts involved. The number and volume of government loans does not necessarily lead to a net increase in residential mortgage credit, nor does an increase in the number of loans mean that these funds are committed to housing. It has been estimated that 50 to 60 per cent of the impact on construction of CMHC loans is offset by a decrease in private lending and by the effect of greater loan volume on housing costs and prices.[36] Simulations were made with the CANDIDE 2.0 model to assess the effect of federal borrowing to finance loans made by the CMHC for the construction of new, single detached houses. The simulations showed that these loans are offset almost dollar for dollar by a reduction

in private lending for the same type of dwellings (see Table 5-7). Any increase in new housing starts is an unintended side effect. Since the impact of government loans is largely offset by the market, direct lending alone cannot be relied upon to stimulate the construction of a specific type of dwellings. Other policy instruments would also have to be used. Therefore,

19 We recommend that, whenever government wishes to stimulate housing construction, appropriate tax incentives or direct government involvement be preferred to public mortgage lending.

This recommendation is of particular relevance during periods when both residential construction and the overall economy are weak. The two do not necessarily rise and fall together, however, as the level of construction activity is highly sensitive to interest rates, which generally fall during a recession. Nevertheless, on occasion a recession could coincide with high uncertainty about interest rates and inflation. These conditions could prevent nominal rates from falling as much as they would in other circumstances. Tax incentives and a temporary subsidy program could then be used to change the timing of housing starts.

Conclusion

The government's role in providing financial support to housing has changed considerably over the last 50 years with respect to both the goals pursued and the policy instruments used. The federal government's direct-lending and loan-insurance activities have contributed to the introduction of different types of mortgages, from the fixed, blended-payment, 25-year amortized loan to one-year renewable and graduated-payment mortgages. The focus of government financing activities has also changed: from single detached houses to social housing and, more recently, to some retrenchment in direct lending to the private sector.

Government involvement in mortgage financing seeks to promote the development of this market and to provide stimulus to residential construction, while ensuring that proper attention is given to the needs of the low-income households who are unable to make large down-payments or high interest payments. This involvement, however, has produced mixed results.

While governments have succeeded in developing the mortgage market, we have seen that loans are not the most efficient policy instrument to achieve the goals of income redistribution, improvement of the housing stock, and stabilization of the construction industry. These social objectives should be pursued with other policy tools, such as direct grants and shelter allowances. Gaps in the credit market are not as serious today as in the past, and governments should seek to fill them by unsubsidized loans and mortgage loan insurance. With respect to affordability, the situation could be improved by introducing new lending instruments, such as indexed mortgage loans.

The government's presence in the mortgage market has been reduced over the last five years. This need not be regretted, since some of its objectives – such as stimulating an increased flow of funds to the housing sector – have been met, while others – like income redistribution – cannot be realized with financial instruments. In the inflationary environment of the 1970s, however, new problems have surfaced in housing finance. This does not mean that old government programs should be resurrected. Innovative new programs should, instead, be introduced to deal effectively with these problems.

6 Farm Assistance

Agriculture, like housing, has long been a matter of concern for Canadians and their governments. But this interest cannot be solely attributed to its economic dimension. Farming is indeed an economic activity, but it is also a way of life.

The 1981 Census counted 318,361 farm operations in Canada – 34 per cent less than in 1961. The average size of farms, however, increased by almost 50 per cent over the same period – from 359 to 511 acres. In addition, there was an extensive substitution of capital for labour, with considerable repercussions on the financing of farming operations. Farmers have also increased their level of education, with many today holding graduate degrees and operating as seasoned businessmen. One should not be misled by the fact that almost all (96 per cent) Canadian farms are unincorporated: many farmers use the latest production, management and marketing methods.

It is not always easy to distinguish the hobby farmer and other part-time farmers from the genuine farmer, particularly in the case of beginning or semi-retired farmers. These farmers are in a transitional phase, slowly building up or winding down operations, and participating in activities outside agriculture where they find the necessary financial support for their entry or exit. However important their role has been or may become, part-time operators fall outside the scope of this chapter.

Farming has always been a risky venture, since output depends on many factors beyond the control of farmers – weather, price stability, etc. Consequently, farm income has fluctuated in the past and is still subject to fluctuations today, although they are not as severe. Government has introduced various measures to reduce these fluctuations, such as marketing boards and crop insurance programs, to stabilize both incomes and output. Other institutions have also attempted to lower the risks involved in farm ventures. For instance, commodity trading at the Winnipeg Grain Exchange allows some farmers to hedge the risks from fluctuations in the prices of some crops.

The greater risk associated with agricultural production, together with the fact that farming has not generally been considered as a business on the same footing as other business ventures, has been and often continues to be the cause of some reluctance on the part of private lenders and investors to channel funds to this sector. Nevertheless, total farm credit outstanding amounted to $16.6 billion in 1980. Approximately 70 per cent of this amount came from the private sector, almost 10 per cent provided with a government guarantee; the remaining 30 per cent was provided through direct government loans. In fact, the generalized credit gap affecting the farm sector from the Great Depression to the 1970s has been significantly reduced, as private financial institutions have increasingly entered the farm finance market. This financing may not, however, be available in the form best suited to farmers' needs. Farmers occasionally have problems in meeting their financial obligations because of the lack of a financial instrument adapted to structural factors that can prevent farm operations from generating a cash flow comparable to that in other industries.

Loans and loan guarantees are not the sole instruments of government assistance to farmers nor are they the main ones. Governments also provide direct payments through commodity programs, storage and freight assistance, technical aid, crop insurance, research programs, and trade promotion programs.[1] Our primary concern here is with the use of financial instruments; the other forms of assistance are examined only as alternative means to achieve government's objectives.

Government Agencies

History[2]

It is difficult to put a definite date on the first government loan or government loan guarantee to farmers. In 1817, some relief was provided by way of seed grain advances. In subsequent years, aid to farmers was given in the form of grants, such as those received in 1865 by dairy and fruit producers in Upper and Lower Canada.

The turn of the century saw a return to financial instruments, with governments intervening to provide emergency assistance and stimulate land settlement until the 1950s. After World War I, the federal government made loans and advances under the Soldiers' Settlement Acts of 1917, 1919, and 1924. By 1930, several provinces (New Brunswick, Alberta, and British Columbia) were providing assistance to settlers through boards created for that purpose. In 1932, a Land Settlement Board, which in the 1950s became the Farm Loan Board, was established in Nova Scotia to help resettle displaced miners.

During the same period, governments were already concerned with possible gaps in the financial services offered by private institutions. By 1917, each of the three Prairie provinces had established a public lending agency for this purpose. The belief that credit to farmers was inadequate was led to the establishment in 1927 of the Canadian Farm Loan Board, which later became the Farm Credit Corporation.

In the 1930s, the Great Depression and a series of droughts caused great suffering to farmers. Grain farming was most severely affected, so that by 1937 two-thirds of the total farm population of Saskatchewan was destitute. Private agricultural credit was therefore also weakened and institutional lenders were discouraged by their loss experience from operating in this field. It became increasingly obvious that government intervention was necessary. Throughout the 1930s, government assistance was aimed as much at bailing out farmers faced with specific problems (drought, collapsing prices of some products) as at solving the structural shortcomings of financial markets, although neither objective was given clear priority. By 1939, eight provinces had established agencies or boards to provide financing to agriculture. But most were aimed as much at assisting in land settlement as at remedying financial market deficiencies.

To deal with the financial distress caused by the depression, the federal government created in 1939 the Central Mortgage Bank, whose function was to assist its members – life insurance companies and other mortgage lenders – in rescheduling farm debt and absorbing part of the losses from cancellation of arrears of interest. Because of the war, however, this corporation never became operative and its members had to find other means to absorb bad debts.

Immediately after the Second World War, assistance to settlers was still very important. Loans under the Veterans' Land Act were the most important source of federal financial assistance to agriculture. But things, however, started to change. With passage of the Farm Improvement Loans Act in 1944, the federal government recognized the probability that the financial instruments available to farmers were inadequate and that banks and other private intermediaries were not in a position to meet all of their needs, as a result of their adverse experience in the previous decade. This act provided for a limited federal government guarantee of bank losses on loans to farmers made under the legislation. In 1959, the Canadian Farm Loan Board was replaced by the Farm Credit Corporation (FCC) which was to play an important role in the development of agriculture.

The provincial programs created between the two wars, with the exception of the Quebec Farm Credit Bureau and the Nova Scotia Land Settlement Board, had become largely inoperative by the end of the 1950s. A new breed of provincial lending programs was established in the 1960s and 1970s, placing great emphasis on the provision of credit to promote agricultural development. These programs aimed at filling potential credit gaps, but they also pursued broader objectives related to the development of the Canadian agricultural sector.

Institutions

In 1980, there were four boards and seven agencies at the federal and provincial levels offering financial assistance to farmers (Table 6-1). These did not include the Federal Business Development Bank, which also provides loans to farmers but on a small scale, because it is primarily oriented toward business. Two provinces have no separate agency or board concerned with agriculture, their assistance to farmers being provided directly by their respective departments of agriculture.

Some of these agencies are registering strong growth, such as the Alberta Development Corporation (ADC), which provides a wide range of loans and guarantees, from "direct farm loans" to primary producers unable to obtain financing at reasonable terms from private sources, to "beginning farmer loans" as well as "disaster assistance loans." In fiscal 1980/81, the volume of loans extended by the ADC doubled from the previous year. Other agencies, however, are scaling down their activities because of the budget problems they are facing; one example is the federal Farm Credit Corporation, which accounts for 73 per cent of government farm loans. Others, such as Quebec's Office du crédit agricole, are being overhauled in a switch from direct lending to general loan guarantees.

Objectives

The objectives of government farm assistance have evolved from the more or less ad hoc interventions aimed at promoting land settlement to the present

Table 6-1

Major Government Agencies and Programs Providing Loans and Loan Guarantees to Farmers,[1] Canada, 1980

	Government	Status[2]	Date of creation	Outstanding assistance		
				Loans	Loan guarantees	Assets
	($ thousands)			($ thousands)		
Farm Credit Corporation (FCC)	Federal	A	1959	3,192,006	-	3,191,827
Farm Improvement Loan Act (FILA)	Federal	P	1944	-	144,843	. . .
Veterans' Land Act (VLA)	Federal	B	1942	343,433	-	366,563
Advance Payments for Crops Act (APCA)	Federal	P	1977	-	28,655	. . .
Farm Development Loan Board (FDLB)	Newfoundland	B	1953	2,736	-	2,731
Prince Edward Island Lending Authority (PEILA)	Prince Edward Island	A	1969	7,117	-	16,118
Nova Scotia Farm Loan Board (NSFLB)	Nova Scotia	B	1967	70,689	-	76,965
Farm Adjustment Board (FAB)	New Brunswick	B	1966	32,912	-	. . .
Office du crédit agricole (OCA)	Quebec	A	1936	282,526	608,816	292,483
Ontario Junior Farm Establishment Loan Corporation[3]	Ontario	A	1952	53,672	-	55,312
Ontario Young Farm Credit Program	Ontario	P	1975	-	2,913	. . .
Ontario Milk Production Incentive Program	Ontario	P	1973	-	1,089	. . .
Agricultural Credit Corporation (ACC) - excluding Fisheries Act)	Manitoba	A	1959	97,444	344	110,798
Saskatchewan FarmStart Corporation (SFSC)	Saskatchewan	A	1973	77,843	2,636*	76,506
Alberta Agricultural Development Corporation (AADC)	Alberta	A	1972	188,723	105,700	193,944
Agricultural Societies Act	Alberta	P	1970	333	7,715	. . .
Agricultural Credit Act	British Columbia	P	1973	-	3,718	. . .

*Includes the Livestock Loans Guarantee Act and the Agricultural Incentives Act.

1 The FBDB and some provincial agencies lending to businesses also make loans to farmers, but they have not been included in this table because of their relatively small contribution to farm financing.

2 A = agency; P = program; B = board.

3 No longer active as a lender.

SOURCE Estimates by the Economic Council of Canada based on data from the Public Accounts of Canada and the provinces, and on the annual reports of the agencies.

programs, concerned with the broader development of Canadian agriculture. That is not to say that programs in the 1920s and 1930s were unconcerned with this issue. Quite simply, this goal had not been specifically stated, any more than today's objectives explicitly include guaranteeing a steady supply of food to Canadians at stable prices, even though this is obviously the fundamental purpose and major justification for government's preoccupation with agriculture.

It is difficult to determine from the statutes, regulations, and annual reports of the different farm finance agencies the precise objectives assigned to them by government. Quite often these documents only provide a statement of what agencies and programs actually do rather than define the ultimate goals they are intended to achieve.[3]

The main objective common to all federal and provincial agencies is linked to economic development. The report of the Task Force on the Orientation of Canadian Agriculture found three major categories of objectives.[4] Consumer-oriented goals consist of guaranteeing Canadians an adequate and reliable supply of food products at reasonable and stable prices. Producer-oriented objectives are aimed at guaranteeing farmers a fair and stable income and at

reducing economic disparities with other sectors. The objectives in these two categories are achieved by making farm operations viable and providing for their orderly transfer from one generation to the next. The authors of the report placed in a third category broadly oriented objectives, such as improvement in the quality of farm life and the maintenance of a balanced distribution of population between rural and urban areas.

All of the various finance agencies pursue these goals either implicitly or explicitly. Four have a general mandate to contribute to "the development of agriculture," which covers each of the three major categories of objectives. In addition, nine agencies (responsible for about 90 per cent of total financial assistance outstanding) have the development of farms as an objective. Four have a mandate to promote family farms; six aim at making farms profitable; five aim specifically at helping young farmers; three redistribute income to farmers. All of these objectives fall under the two major categories described in the Task Force report – i.e. those centred on the producer and the consumer.

Broadly oriented objectives are also among the concerns that led to the establishment of some agencies, as illustrated in the testimony regarding the factors that presided over the creation of the Saskatchewan FarmStart Corporation.

> "The Saskatchewan FarmStart Corporation was formed because of a fundamental and serious concern about what was happening to Saskatchewan farmers in rural areas. We saw Saskatchewan farm population seriously declining to the detriment of farm and rural communities... Saskatchewan concluded that the reason this population trend was happening was that farmers were attempting to enlarge their farm operations to deal with the problem of declining net returns. They were doing this by buying more acreage, which meant buying out smaller farmers. Each time this happened, Saskatchewan lost another farmer. It was clear that at the time credit programs were encouraging this trend and that no credit program existed which could encourage farmer expansion within the farm fence, rather than expansion by purchase of additional land. We became convinced that the way to deal with that declining farm number was to make it possible for farmers to farm adequately on a smaller land basis. This meant that farmers had to get more production per acre if they were to realize good income on smaller acreage."[5]

The achievement of government agricultural objectives depends on an adequate and stable supply of financing. Government agencies therefore attempt to correct market imperfections, if any, and aim at ensuring a steady supply of funds to farmers. Some programs assist farmers in finding private financing, while others act as lenders of last resort.

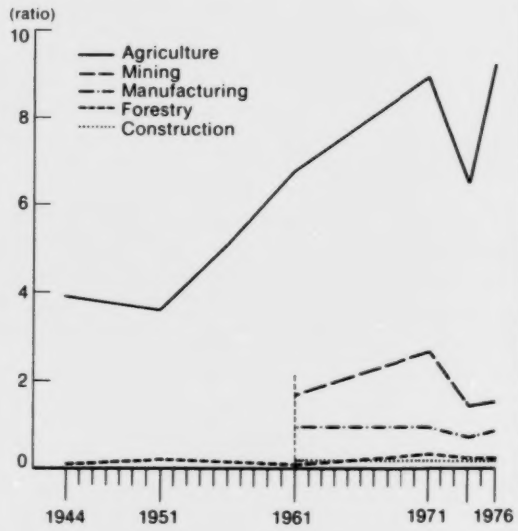
Correcting Credit Gaps

Increased Financing Needs

Over the past 20 years, the financial needs of Canadian farmers have grown at a rapid pace. This can be attributed to a sharp increase in the demand for farm products, particularly for export. The value of farm exports has climbed by an average 15 per cent annually over the last 10 years. The greater financial needs also result from an increase in the capital intensity of Canadian agriculture. From 1944 to 1976, the ratio of the capital value of farms – land, buildings, machinery, cattle, and poultry – to value added has more than doubled. In fact, agriculture is by far the most capital-intensive sector in the Canadian economy (Chart 6-1). This is in line with the observation that the more economically developed a country is, the more rapid is the evolution of its farm sector

Chart 6-1

Ratio of Capital to Value Added,[1]
Selected Sectors, Canada, 1944-76



1 Value added is defined as the value of output less the cost of intermediate inputs and equals the combined incomes of capital and labour. Thus the chart shows the amount of capital assets used per dollar of income generated in each sector.

SOURCE Robert St-Louis and Jean-Paul Lachapelle, "Le financement de l'agriculture dans le contexte institutionnel et dans l'environnement économique des années 1970 au Canada," a paper prepared for the Economic Council of Canada, 1982.

Table 6-2

Capital and Employment in Farming, Canada, Selected Years, 1941-81

	Land and building		Equipment and machinery		Livestock and poultry		Total capital		Employment	Total capital per worker
	Amount	Share	Amount	Share	Amount	Share				
	($ Millions)	(Per cent)	($ Millions)	(Per cent)	($ Millions)	(Per cent)	($ Millions)	(Per cent)	(Thousands)	(Dollars)
1941	3,030	71.3	596	14.0	621	14.6	4,247	100.0	1,224	3,470
1951	5,513	58.3	1,932	20.4	2,006	21.2	9,451	100.0	939	10,065
1961	8,603	65.4	2,566	19.5	1,990	15.1	13,159	100.0	681	19,323
1971	16,912	70.8	3,905	16.4	3,065	12.8	23,882	100.0	514	46,463
1981	82,157	75.3	16,930	15.5	9,985	9.2	109,072	100.0	484	225,355

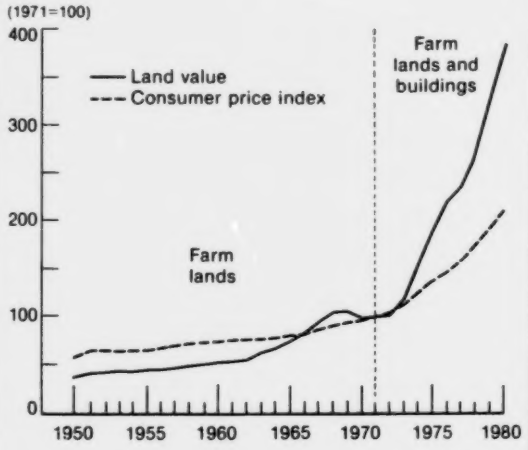
SOURCE Estimates by the Economic Council of Canada based on data from Statistics Canada.

towards a high capital intensity as a result of the substitution of capital for labour.[6] Over the past 40 years, the value of farm capital in Canada rose by a factor of 26, while agricultural employment decreased by about two-thirds (Table 6-2). This phenomenon is primarily attributable to the increased mechanization of farm operations and to a substantial rise in the value of land and buildings.

From 1950 to 1980, the value of land rose rapidly, with a substantial jump in the last ten years (Chart 6-2). In fact, this growth was faster than that of the consumer price index, which would appear to indicate that the increase is not only the result of inflation. This is borne out by the fact that the value of farm capital (in constant dollars) has risen by 71 per cent since 1941 (Table 6-3).

Chart 6-2

Growth in the Consumer Price Index and the Value of Farm Lands and Buildings per Acre, Canada, 1950-80



SOURCE Data from Farm Credit Corporation, *Federal Farm Credit Statistics* (various years), and from Statistics Canada.

The 1976 Census data confirm the extent of the shift from labour to capital.[7] In that year, farm operations used 3.8 times more tractors and 5.5 times more trucks than in 1941 and 3.3 times more combines than in 1951. Total capital (in constant dollars) per farm worker rose from $3,465 in 1941 to $15,235 in 1980 (Table 6-4). Finally, intensified mechanization and spiraling real estate values have brought about a shift in the structure of farm capital. The share of equipment and machinery remained relatively constant as a proportion of total farm capital between 1971 and 1981, the share of livestock and poultry decreased from 12.8 to 9.2 per cent and that of land and buildings grew to represent 75 per cent of total capital in 1981.

This evolution in the volume and composition of farm capital resulted in increased financial requirements. Total farm credit outstanding registered an eight-fold increase between 1961 and 1980, slightly more than that of assets. The increase in the relative importance of buildings and land was accompanied by an increase in that of long-term financing (with a maturity of more than ten years), especially between 1961 and 1970, when government involvement was growing (Chart 6-3). Over the same period, the relative importance of medium-term credit (with a maturity of 18 months to 10 years) declined considerably, while that of short-term credit (with a maturity of at most 18 months) remained relatively stable. In the following decade, the relative share of medium-term credit rose sharply, at the expense of short-term credit.

As Table 6-5 illustrates, the debt-to-asset ratio for farms decreased slightly from 1970 to 1980. The ratio

Table 6-3

Total Capital, Equipment and Machinery at Constant Prices,[1] and Employment in Agriculture, Canada, Selected Years, 1941-80

	Capital		Equipment and machinery		Employment	
	Value	Increase	Value	Increase	Number	Increase
	($ Millions)	(Per cent)	($ Millions)	(Per cent)	(Thousands)	(Per cent)
1941	4,241.0	..	596.0	..	1,224	..
1951	4,591.9	8.3	852.3	43.0	939	-26.2
1961	5,029.0	9.5	985.4	15.6	681	-27.5
1970	6,135.9	22.0	1,175.6	19.3	513	-25.0
1980	7,267.2	18.4	1,909.4	62.4	477	-6.7

1 In 1935-39 dollars.

SOURCE R. St-Louis and J. P. Lachapelle, "Le financement de l'agriculture dans le contexte institutionnel et dans l'environnement économique des années 1970 au Canada," a paper prepared for the Economic Council of Canada, 1982; estimates by the Economic Council of Canada based on data from Statistics Canada.

Table 6-4

Total Capital, Equipment and Machinery, and Production per Worker Employed in Agriculture, at Constant Prices,[1] Canada, Selected Years, 1941-80

	Total capital per worker		Equipment and machines per worker		Farm production per worker
	(Dollars)	(Index)	(Dollars)	(Index)	(Index)
1941	3,465	100.0	487	100.0	100.0
1951	4,890	141.1	908	186.4	210.3
1961	7,385	213.1	1,447	297.1	270.3
1970	11,961	345.2	2,292	470.6	480.0
1980	15,235	439.7	4,003	822.0	..

1 In 1935-39 dollars.

SOURCE St-Louis and Lachapelle, "Le financement de l'agriculture"; estimates by the Economic Council of Canada based on data from Statistics Canada.

of medium-term credit to the value of machinery, equipment, livestock, and poultry increased by more than 50 per cent over the same decade. The ratio of long-term loans to farm land and buildings declined sharply from 1970 to 1976 and increased slightly afterwards, without reaching its 1970 level. Throughout this period, however, it remained below the debt-to-asset ratio, which would indicate that a larger proportion of equity was used to finance land and buildings than the other categories of assets. The change in these ratios over the past ten years indicates that medium-term credit has, to some extent, been substituted for short-term loans to finance current assets and, to a lesser extent, for long-term credit to finance land and buildings.

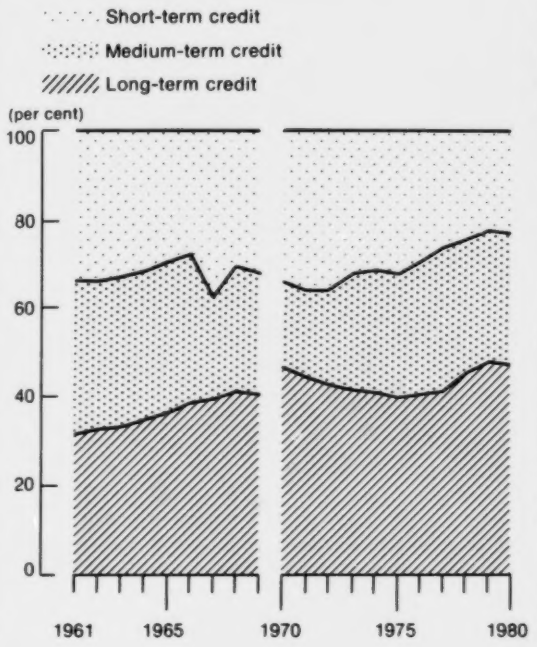
The Growing Importance of Private Financial Institutions

As far as the supply of funds is concerned, the private sector dominates the short-term farm finance market, while governments play a leading role in long-term financing. There are virtually no government short-term loans, and there are no short-term loans guaranteed by government (Tables 6-6 and 6-7).[8] Medium-term farm credit is also dominated by the private sector, although government does play a somewhat greater role by providing guarantees under the federal Farm Improvement Loans Act. Direct loans granted by both levels of government dominate the long-term credit market, as they account for close to 60 per cent of total long-term credit outstanding to farmers. Government guaranteed loans should be added to this figure to yield a complete picture of government involvement.[9] The relative importance of guaranteed loans has increased sharply in recent years, while there has been a shift from government direct loans to government guarantees at the provincial level, especially in Quebec.

The most important change in the supply of farm credit over the last two decades has been the growing role of the private sector, and especially of financial institutions. In 1961, all of the short-term credit outstanding to agriculture came from private sources; financial institutions accounted for almost

Chart 6-3

Distribution of Farm Credit Outstanding, by Length of Term, Canada, 1961-80



SOURCE Based on Farm Credit Corporation, *Federal Farm Credit Statistics*, (various years), and from St-Louis and Lachapelle, "Le financement de l'agriculture."

60 per cent, while individuals and suppliers, such as feed companies and equipment dealers, accounted for the remaining 40 per cent (Table 6-6). By 1980 the share of private financial institutions in the provision of total short-term farm credit had reached close to 90 per cent.

The same trends are noticeable in the area of medium-term farm credit. In 1961, private-sector loans guaranteed or unguaranteed accounted for over 99 per cent of total medium-term farm credit outstanding, but the share provided by private institutions stood at only 36 per cent. If bank loans secured with a government guarantee under the Farm Improvement Loans Act (FILA) are excluded, the share provided by private institutions was no more than 5.3 per cent. Individuals were by far the main suppliers of medium-term farm credit in that year, with a 50 per cent share of the total outstanding, while the suppliers' share accounted for 13 per cent.

Table 6-5

Selected Farm Financing Ratios, Canada, 1970-80

	Debt-to-asset ratio	Ratio of medium-term outstanding credit to equipment, machinery, livestock, and poultry	Ratio of long-term credit outstanding to land and buildings
		(Per cent)	
1970	18.4	12.1	12.1
1971	19.3	13.1	12.2
1972	19.0	13.7	11.6
1973	18.1	15.9	10.8
1974	17.0	17.3	9.6
1975	16.5	19.2	8.7
1976	16.4	20.7	8.8
1977	17.4	24.0	9.5
1978	17.3	20.9	10.6
1979	17.3	20.0	11.2
1980	16.3	19.9	10.3

SOURCE St-Louis and Lachapelle, "Le financement de l'agriculture"; estimates by the Economic Council of Canada based on data from Statistics Canada and from Farm Credit Corporation, *Federal Farm Credit Statistics*, various years.

Twenty years later, the financial institutions' share had more than doubled, while that of FILA loans had decreased by two-thirds. Long-term financing followed a similar trend, the financial institutions' share having increased from 3 per cent in 1961 to over 28 per cent in 1980.

The greater importance of financial institutions is, to a large extent, attributable to the rapid increase in bank credit during the 1970s. The chartered banks' share in short-term credit outstanding rose from 61 per cent in 1971 to 77 per cent in 1980, and their share of medium-term credit rose from 40 per cent to 58 per cent over the same period. Excluding FILA loans, the relative growth of medium-term bank loans is still more pronounced, their share having increased from 5.5 per cent in 1971 to 47 per cent in 1980. Although banks entered the long-term farm credit market only recently (1977), their share has risen sharply since.

To explain this increase in the relative importance of chartered banks in farm credit and, more generally, the renewed interest of financial institutions in farm lending, one must go back in time to consider the role that these institutions played in the past and the circumstances under which they reduced their level of activity. In the second half of the 19th century, Canadian agriculture was financed mainly by individual merchants and suppliers. Private financial institutions started to become involved only at the turn of the century. Farmland was then considered to

Table 6-6

Distribution of Funding in Agriculture, by Term of Credit and by Source, Canada, Selected Years, 1961-71[1]

	Credit outstanding											
	Total			Long-term			Intermediate-term			Short-term		
	1961	1966	1971	1961	1966	1971	1961	1966	1971	1961	1966	1971
	(Per cent)											
Public funding	27.8	35.7	38.2	87.5	90.2	92.2	0.8	2.6	5.1	–	0.1	0.4
Federal government	17.3	26.6	29.2	55.0	67.5	71.1	--	1.8	3.3	–	–	–
Farm Credit Corporation	11.9	21.8	25.2	37.8	56.4	63.0	–	0.1	0.5	–	–	–
Veterans' Land Act	5.4	4.3	3.2	17.2	11.1	8.1	–	–	–	–	–	–
Federal Business Development Bank	–	0.6	0.7	–	–	–	--	1.7	2.7	–	–	–
Provincial governments	10.5	9.1	9.0	32.5	22.8	21.1	0.8	0.8	1.8	–	0.1	0.4
Agencies	10.2	8.8	8.4	32.5	22.8	21.1	–	–	–	–	–	–
Municipalities (Ontario Tile Drainage Act)	0.3	0.3	0.5	–	–	–	0.8	0.8	1.8	–	–	–
SEDCO (Saskatchewan)	–	–	0.1	–	–	–	–	–	–	–	0.1	0.4
Private funding (guaranteed and unguaranteed)	70.9	63.7	61.1	8.8	8.4	7.0	99.2	97.4	94.9	99.7	99.7	98.2
Financial institutions	33.5	35.1	38.4	2.9	3.8	2.8	36.3	46.1	41.3	59.3	65.5	78.3
Banks	27.1	26.0	29.2	–	–	–	31.0	34.1	29.7	48.5	52.2	63.4
– Banks FILA	10.9	11.6	6.8	–	–	–	31.0	34.1	25.7	–	–	–
Credit unions	3.8	6.0	6.5	–	–	–	2.4	8.8	8.3	8.7	11.1	12.8
Finance companies	1.0	0.9	0.7	–	–	–	1.9	1.7	1.7	1.0	1.2	0.6
Insurance and trust companies	1.1	1.9	1.4	2.7	3.8	2.6	0.8	1.4	1.2	–	–	–
Treasury branches (Alberta)	0.5	0.3	0.7	0.2	0.1	0.2	0.1	0.1	0.4	1.1	1.0	1.5
Others	37.4	28.6	22.6	5.9	4.6	4.3	62.9	51.2	53.6	40.4	34.2	19.9
Private individuals	22.1	18.0	15.1	5.9	4.6	4.3	50.0	41.3	43.2	8.3	8.0	5.7
Supply companies, dealers, stores, etc.	15.3	10.6	7.6	–	–	–	13.0	9.9	10.4	32.1	26.2	14.2
Miscellaneous[2]	1.3	0.6	0.8	3.7	1.3	0.8	–	–	–	0.3	0.2	1.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

1 The figures for 1971 in this table differ from those in Table 6-7; for an explanation, see note 8 to the text.
2 Includes Alberta Electrical Co-operatives, railway and land companies, co-operative programs, and unpaid taxes.
SOURCE Estimates by the Economic Council of Canada based on data from the Farm Credit Corporation.

Table 6-7

Distribution of Funding in Agriculture, by Term of Credit and by Source, Canada, Selected Years, 1971-80[1]

	Credit outstanding											
	Total			Long-term			Intermediate-term			Short-term		
	1971	1976	1980	1971	1976	1980	1971	1976	1980	1971	1976	1980
	(Per cent)											
Public funding	39.0	34.3	29.0	83.8	79.5	57.8	6.9	6.2	4.8	0.4	0.1	0.1
Federal government	29.8	26.8	22.0	64.6	63.2	44.8	4.4	3.5	2.2	–	–	–
Farm Credit Corporation	25.8	24.4	21.0	57.3	59.7	44.0	0.7	0.4	0.3	–	–	–
Veterans' Land Act	3.3	1.4	0.4	7.3	3.5	0.8	–	–	–	–	–	–
Federal Business Development Bank	0.7	0.9	0.5	–	–	–	3.7	3.1	1.9	–	–	–
Provincial governments	9.2	7.5	7.0	19.2	16.3	13.1	2.5	2.7	2.6	0.4	0.1	0.1
Agencies	8.6	6.8	6.3	19.2	16.3	13.1	–	0.6	0.3	–	0.1	0.1
Municipalities (Ontario Tile Drainage Act)	0.5	0.6	0.7	–	–	–	2.5	2.1	2.2	–	–	–
SEDCO (Saskatchewan)	0.1	–	–	–	–	–	–	–	–	0.4	–	–
Private funding (guaranteed and unguaranteed)	60.2	65.0	70.0	15.5	20.1	41.9	93.1	93.8	95.2	98.2	97.9	95.8
Financial institutions	39.3	48.4	56.3	2.5	5.1	28.5	56.3	70.6	77.4	76.0	85.8	87.3
Banks	29.8	36.1	43.5	–	–	18.6	40.5	52.3	58.0	61.5	69.6	77.1
– Banks FILA	7.0	4.6	3.4	–	–	–	35.0	15.5	11.2	–	–	–
Credit unions	6.7	9.5	9.4	–	4.6	8.3	11.3	13.4	13.4	12.5	12.5	6.1
Finance companies	0.7	0.3	0.3	–	–	–	2.3	0.9	0.8	0.6	0.2	0.3
Insurance and trust companies	1.4	0.8	1.2	2.4	0.5	0.6	1.6	2.1	2.9	–	–	–
Treasury branches (Alberta)	0.7	1.6	2.0	0.2	–	0.9	0.5	1.9	2.3	1.4	3.4	3.8
Others	21.0	16.6	13.6	12.9	15.0	13.4	36.8	23.2	17.8	22.3	12.2	8.4
Private individuals	13.3	10.0	8.7	12.9	15.0	13.4	22.6	8.1	5.4	8.5	5.0	3.2
Supply companies, dealers, stores, etc.	7.7	6.6	4.9	–	–	–	14.2	15.1	12.4	13.8	7.2	5.2
Miscellaneous[2]	0.8	0.7	1.1	0.7	0.4	0.3	–	–	–	1.3	2.0	4.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

1 The figures for 1971 in this table differ from those in Table 6-6; for an explanation, see note 8 to the text.
2 Includes Alberta Electrical Co-operatives, railway and land companies, co-operative programs, and unpaid taxes.
SOURCE Estimates by the Economic Council of Canada based on data from the Farm Credit Corporation.

be a good security, and building societies as well as insurance companies were offering mortgage loans to farmers. At that time, banks tended to specialize in short-term credit. Then came the 1930s and the Depression, which had devastating effects on farmers. Government measures were adopted to help farmers in distress, including measures to prevent creditors from foreclosing. The Prairie provinces enacted legislation requiring financial institutions to apply to a board for permission before foreclosing on a farmer who fell in arrears or defaulted.[10] In 1937, Alberta also imposed a moratorium for one year on farm debt repayment. It has been estimated that by 1937 approximately $50 million of farm indebtedness had been written off. The insurance companies suffered the largest losses and, as a result, withdrew from farm credit. Of course, all of the private institutions were affected, including the chartered banks.

But the reluctance of financial institutions to participate in farm finance cannot be solely blamed on the debt adjustment acts. The high risk of farming was another factor. The authors of a 1962 study prepared for the Royal Commission on Banking and Finance stressed the extent to which risk and uncertainty dominated the decisions of farmers at that time.[11] Not only were the prices of farm products undergoing sharp fluctuations in the 1920s and the 1930s, but farmers often had to face partial or complete crop failures, caused by drought, hail, soil drifting, grasshoppers, cutworms, and the like. Mortgage lenders interviewed in the course of the study stated that farm mortgage rates should have been as high as 14 to 15 per cent to cover the risks and costs of collecting. At that time, however, such rates would have been deemed unacceptable.

A number of measures were introduced by government during the 1930s and 1940s to reduce these risks: the Dominion government's Prairie Farm Rehabilitation Act of 1935 aimed to bring about more appropriate use of land; the 1939 Dominion Prairie Farm Assistance Act established a form of crop insurance; the Canadian Wheat Board was set up in 1935 to ensure "marketing in an orderly manner . . . of grain grown in Canada"; and after the Second World War, the federal government adopted a number of price support policies. All of these measures contributed to stabilize prices and farm yields and hence to reduce the risk and uncertainty that had made private lenders wary.

These measures did not reduce other types of loan risk, such as the risks associated with the viability of the farm, with the ability of the farm operator to manage his venture efficiently, or with the ability of the lender to assess all of these factors. Co-operatives and pools have done much to improve production and marketing, but farm credit risks remained high until the late 1960s. Private financial institutions were unable to correctly assess the borrower's characteristics since they were not specialized in this area and lacked the necessary knowledge. Consequently, they applied to farm credit the same methods and procedures that produced successful results in lending to other sectors of the economy.

This lack of specialized knowledge on the part of many lending institutions, the self-imposed ceilings on interest rates adopted by lenders to avoid public hostility, and the regulation preventing mortgage lending by banks contributed to the development of a credit gap in farm finance. This was also true of the measures adopted by governments during the 1930s to prevent or impede financial institutions from obtaining full restitution on loans outstanding. While no doubt well-intended, such measures resulted in some of these institutions losing interest in farm credit for an extended period. Whatever the contributing factors, the existence of a generalized credit gap that was felt for many years led governments to increase their participation in agricultural finance.

Under an Act adopted in 1927, the Canadian Farm Loan Board was empowered to make long-term loans on first mortgages for up to 50 per cent of the appraised value. This legislation also stipulated that the interest rate charged should be set in relation to the cost of funds to the Board and to the riskiness of the venture financed, so as to cover all costs. Thus no subsidy was involved in the credit extended by the Board. This was consistent with the principle that should govern interventions aimed at filling a credit gap. However, this approach was changed in the late 1950s and during the 1960s. For example, there was no relationship between the rate charged by the Farm Credit Corporation (the successor to the Canadian Farm Loan Board), on the one hand, and its cost of funds and the riskiness of the venture to be financed, on the other. The same was true, and had been for some time, of the interest rate applied on the loans offered by other agricultural credit agencies, so that the rates charged were lower than market rates. The private sector could not offer similar conditions, and public farm credit institutions thus became *de facto* lenders of first resort, especially in the area of long-term finance.

In the late 1960s and early 1970s, several changes occurred that increased the participation of private institutions in farm finance. The 1967 amendments to the Bank Act removed interest rate ceilings and allowed chartered banks to lend on the security of first mortgages. This paved the way for the banks to provide long-term agricultural loans. In the early

1970s, the farm sector experienced a few years of good crops, which improved the returns on farm activities. This resulted in a substantial decrease in farmers' debt-to-asset ratios (Chart 6-4) and made the agricultural sector look more attractive to bankers. At the same time, the surge in land prices and increased mechanization contributed to a greater demand for funds. Thus the agricultural sector became a fertile field for financial institutions. Banks and credit unions hired agronomists to assist in the operation of newly established agriculture divisions. They were ready to move in as soon as government lending agencies would let them. This came about in 1977, as governments adopted a more conservative approach to the provision of public financing because of budgetary restrictions, at a time when farmers were substantially increasing their demand for funds. The private institutions moved in to fill the void.[12]

With the return of the private institutions and their willingness to participate in the financing of agriculture, farmers no longer seem to be affected by the generalized credit gap that was evident in the 1940s and 1950s. Our survey of agricultural credit conditions in Alberta, Ontario, and Quebec confirmed the existence of these new trends.[13] All of the farmers interviewed, without a single exception, stated that they could obtain the quantity of credit that they required, provided that they could accept the conditions set by the lending institutions.

Chart 6-4

Debt-to-Asset Ratio[1] in Agriculture, Canada, 1970-80

1 Three-year moving average.
SOURCE St-Louis and Lachapelle, "Le financement de l'agriculture."

The Financing of Specific Categories of Farms

But can we rule out the existence of specific financing gaps affecting, for example, young farmers, farms located in certain provinces or in remote areas, small-sized farms, or farms specialized in a certain type of activity, such as the production of wheat or beef?

Many government programs contain provisions giving priority to young farmers. These provisions may be in response to the reluctance of private lenders to finance young beginning farmers because youth is associated with higher risks or because their lack of a credit and management record makes their evaluation more difficult. A survey conducted by the Canadian Bankers' Association showed, however, that for most types of loans, farmers under 35 borrow more than their elders from the private sector (Table 6-8).[14] These results should be interpreted with caution, especially in view of the fact that the survey does not make it possible to determine the share finally disbursed to young farmers in the total amount of loans granted by the private sector and that the financial needs of young farmers are likely to be greater, as they may have recently acquired a farm or started operating one. It appears, however, that young farmers do not systematically suffer from a credit gap.

A geographical analysis of the source of farm credit by province reveals some significant differences.[15] It should be remembered, however, that farming activities are not equally distributed across the country. It is well-known that they are mainly concentrated in Quebec, Ontario, and the three Prairie provinces. Ninety per cent of all farms in Canada are located in these five provinces, whose sales of farm products amounted to 92 per cent of the Canadian total in 1980. Ontario had the largest proportion of Census farms and of farm product sales, but the largest acreages under cultivation and the largest farms were found in Saskatchewan and Alberta, respectively. It is therefore normal that financing be more important in some provinces than others.

There is another explanation for the interprovincial differences in the contribution of various lenders to farm finance. Chartered banks are much less involved in providing farm loans in Quebec and the Atlantic provinces than in other provinces. Thus government

Table 6-8

Proportion of Farm Producers Using Financial Services, by Age Group and by Type of Instrument, Ontario and the Prairies,[1] 1981

	Under 35	35-44	45-54	55 and over	All age groups
			(Per cent)		
Operating loan	64.3	68.2	49.2	27.5	55.4
Long-term mortgage	62.4	57.7	48.4	25.2	52.5
Equipment loan	69.3	58.2	35.2	22.0	52.1
Farm supply credit	38.5	33.9	22.1	27.5	32.1
Machinery credit	30.7	23.8	16.4	15.4	23.3

1 Results of a survey conducted for the Canadian Bankers' Association in the summer of 1981; 608 full-time producers with annual gross sales of over $60,000 were polled.

SOURCE The Canadian Bankers' Association "Proceedings of the Ninth Agricultural Conference," London, Ontario, October 25-28, 1981.

is the main source of funds in these two regions, but this does not mean that a credit gap exists. By charging lower rates and acting as a lender of first resort, government may have kept out the private sector. Our analysis of the conditions attached to public loans, in a later section, confirms that low rates of interest are charged on government loans east of Ontario. Since the government of Quebec has recently shifted its focus on loan guarantees, it can be expected that private institutions in that province will increase their participation in farm financing. Apart from interprovincial differences, farmers located in remote areas could face a credit gap, because they might be considered by financial intermediaries as involving higher costs or a greater risk.

The differences in size – in terms of annual sales – between farms may be a factor explaining the differences in the supply of funds. According to the 1981 Census, 15 per cent of Census farms had sales of $2,500 or less, while 28.5 per cent had sales of $50,000 or more. The first difference in the financial structure of farms of various sizes emerges in the equity-to-asset ratio. According to a survey conducted by the Farm Credit Corporation in 1980, that ratio is 83 per cent for farms with annual sales of more than $70,000 and 87 per cent for the others, giving an overall Canadian average of 85 per cent (Table 6-9).

These averages conceal wide variations, however. In some cases – admittedly exceptional – the ratio is zero, meaning that all of the farmer's assets are financed with borrowed money. In general, there is not much variability in the equity-to-asset ratio of farms with annual sales of less than $70,000. In fact, almost 75 per cent of farms with sales of $30,000 or less have a ratio greater than 90 per cent. This is also true of over 50 per cent of the farms with sales between $30,000 and $70,000. The proportion of larger farms having a high ratio is much lower, and the ratio shows a greater variability. In the case of the large economic units, the lower ratio may be attributable to the fact that the required investment in equipment and land is too high to be financed out of the cash flow or the sale of liquid assets. In the case of smaller units, it may be that farmers deliberately choose to forgo the large investment required to expand their operation so as to avoid the burden of taking on additional debt. Alternatively, however, it is also possible that smaller farm operations are confronted by a credit gap. An analysis of the financial structure of farms is necessary to determine which one of these assumptions seems the most tenable.

The Financial Structure

An examination of the debt structure of farms classified by their sales volume shows that the largest units (annual sales of more than $70,000) have the highest proportion of short-term debt relative to their

Table 6-9

Distribution of All Farms, by their Equity-to-Asset Ratio and by Sales Category, Canada, 1981

	Equity-to-asset ratio											
	0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	Total	Average
						(Per cent)						
Sales category												
$30,000 and less	–	0.1	0.2	0.9	1.4	1.9	4.0	6.3	10.7	74.6	100.0	86.8
$30,001 - $70,000	–	–	0.7	1.3	1.5	4.9	9.0	11.1	19.5	51.9	100.0	87.2
$70,001 and over	0.1	0.2	1.3	2.3	4.1	6.1	12.5	13.4	22.7	37.4	100.0	83.2
All categories	–	0.1	0.7	1.4	2.3	4.0	8.0	9.8	16.8	56.8	100.0	85.0

SOURCE Estimates by the Economic Council of Canada based on data from the Farm Credit Corporation.

total liabilities. This may be attributable to a higher level of current expenditures or to a desire to shorten the debt maturity when interest rates are expected to be temporarily high. On the other hand, small farms (annual sales of less than $30,000) have the largest proportion of long-term debt in relation to total liabilities. It would seem, therefore, that small farms do not have great difficulty in obtaining long-term credit.[16]

The analysis of the sources of funds by lenders shows that the government's share in the supply of credit to medium-size farms (with sales between $30,000 and $70,000) is much higher than for the other two categories. This is partly a result of developments in the long end of the market, which are themselves due to government policies. Government loans and guarantees account for 75 per cent of the long-term funds supplied to the farms in the intermediary group, while banks account for only 12 per cent. By contrast, public assistance represents only 27 per cent of long-term funds to smaller farms, while banks account for 59 per cent. It thus appears that government programs are aimed at farms belonging to the medium-sized category. Many large farms do not qualify for government assistance, because they are believed to be capable of making it on their own. By contrast, smaller farms are often considered as hardly viable by public-program administrators, who grant them only limited amounts of long-term credit. Differences in the sources of funds by economic size of farms can thus be explained by factors other than the existence of a credit gap.

The same is true of the differences in financial structure and in sources of funds among farms involved in different lines of activity. It is worth recalling that grain – including wheat – is the most important Canadian farm product (40.0 per cent of the total), followed by livestock and dairy products. Dairy producers have the lowest proportion of short-term debt relative to total liabilities, while beef producers have the highest. A likely factor, here, may be the very nature of their respective operations, as dairy production requires large investments of capital and a slower turnover of livestock.

The only noticeable difference in the sources of funds is that dairy and hog producers both have very large proportions of their funds supplied to them or guaranteed by the government – 56.8 per cent in the case of dairy producers and 49.8 per cent for hog producers. Banks are involved more heavily in financing beef production than other agricultural activities. Differences in the respective roles played by governments and private sources in supplying funds to grain, dairy, beef, hog, and poultry producers can be explained, at least in part, by different production requirements and also by the orientation of government policy, which may, at times, favour some types of agricultural producers over others.

As can be seen, our assessment of the financial structure of farms does not lead us to conclude that they are victims of a generalized credit gap. We recognize, however, that there may be operators who, because of particular circumstances, are affected by market failures. These can arise, for example, because of the private institutions' lack of knowledge about a particular farm activity or a specific project, making it difficult for them to assess a loan application. On the other hand, a local credit gap may also result from government regulation, such as zoning bylaws that may affect the collateral value of farm land.

In such cases, there may well be cause for governments to intervene to remedy such problems, provided that the loans and guarantees do not incorporate a subsidy. All public loans to farmers include a form of subsidy, however. In the fiscal year 1978/79, such indirect subsidies amounted to $267 million – 7.8 per cent of the average value of government credit outstanding as measured by the social opportunity cost method. On average, each farmer with a FCC loan received an average subsidy of $2,700 that year; the amount provided by the Alberta Agricultural Development Corporation was $2,600 (Appendix A).

The Need for a New Financial Instrument

The terms and conditions of government financial assistance to farmers are more generous than those offered by private lenders. They represent an acknowledgment, at times implicit and at times explicit, that there are difficulties, other than those posed by credit gaps, that the private sector cannot resolve.

For example, the ADC offers to qualifying beginning farmers loans with a 30-year maturity, a 100 per cent loan-to-value ratio, and an interest rate of 6 per cent for the first five years. In 1980-81, this agency charged a rate of 12 per cent on its other loans, while market rates were about 20 per cent. In 1979, the Newfoundland Farm Loan Board was offering credit for a maximum period of 15 years at a 5 per cent interest. The same year, the Nova Scotia Farm Loan Board was providing loans at 7 per cent for the first $125,000 and at 8.5 per cent on the balance up to $200,000, and the loan-to-value ratio could be as high as 90 per cent.

The private institutions cannot match such terms and conditions. In times of inflation and uncertainty

as to future interest rate changes, they cannot offer a 40-year loan with a fixed interest rate of 8 per cent or less. Governments argue, in support of the conditions offered, that farmers cannot afford to pay the high interest rates prevailing in capital markets. It is contended that a farm that is viable at a 12 per cent interest rate will not remain so at 18 per cent. We agree that many, if not most, farm operators cannot afford today's market rates, simply because their operations cannot generate sufficient cash flow to cover the payments. This situation stems from the very structure of the agricultural industry and particularly from the significant role played by land in the production process.

The Cash-Flow Problems

Farm production involves the use of land – an important input characterized by its relatively inelastic supply. While most farm inputs can easily be shifted between sectors, this is not the case with farm lands. The supply of farm lands is relatively fixed because the cost of their development is very high. As a result, the value of land is determined by demand, and its price is such that it capitalizes the economic rent deriving from the best utilization of the land. In addition, any measure or factor leading to an attempt to increase agricultural output contributes to a higher return on the fixed input – i.e., farm lands. The farmer who wishes to increase his production can do so by increasing his productivity or his demand for inputs. In some cases, he will also need to obtain additional production quotas. The price of supply-elastic inputs reacts very little to an increase in demand, whereas land prices tend to rise.[17] As a result, any factor that contributes to greater farm production – an increase in demand or in production subsidies, for example – will increase the return on land by more than that on other factors. But the return on land comes mainly in the form of a capital gain that the farmer does not receive in cash. It is this particular feature of the agricultural sector that leads to the financial problem referred to above, which is similar to that faced by homeowners.

In times of price stability, an annual return on capital of 3 to 5 per cent should enable farmers to cover their financial commitments. In inflationary periods, however, meeting these commitments becomes more and more difficult, if not impossible. If inflation is running at 12 per cent, for example, an average farmer might expect to receive a nominal return of 15 to 17 per cent on his operations – a real return on land of 3 to 5 per cent plus about 12 per cent in the form of a capital gain.[18] The capital gain may be even higher if the value of the land rises as a result of increased urbanization, resource development, or new investments in social infrastructure (roads and so forth).

The important thing to stress, however, is that the inflationary capital gain represents accrued income that is not received by the farmer in cash. To realize the capital gain, the farmer will have to sell the farm. Generally, if he keeps on running his farm without relinquishing his ownership of the land, a large part of his income is not available to make payments at a 15 to 17 per cent annual rate of interest on a relatively large debt. The farmer is thus faced with a serious cash-flow problem. With inflation at 12 per cent, his nominal return on land is 17 per cent, but he receives 5 per cent or less in cash, while lenders demand interest at 17 per cent or more. In principle, this problem is common to all businessmen; in fact, however, with the exception of housing, there is no other sector where the ratio of inflationary capital gains to income is as large as in farming. In the 1960s, the annual appreciation of land and buildings was seldom less than one-quarter; in the 1970s, it was often more than double the aggregate net farm income.[19]

We acknowledged the existence of this problem in our report on government regultion, when we pointed out that the returns obtained by young farmers in the early years of operation are more in the form of capital gains than of an increase in their gross income, so that they are faced with cash-flow problems. Without making it a formal recommendation, we recognized the need for "programs that help farmers to transform their capital appreciation into productive use without sacrificing their farms."[20]

Cyclical developments in recent years have aggravated these cash-flow difficulties and clearly stressed the urgency of tackling the structural problem that we have just mentioned. Although well-established farmers or those with little debt were less affected by the rapid rise in interest rates, many of those who had made investments in the mid-1970s, when interest rates were "only" between 12 and 14 per cent, had to borrow additional funds to cover their deficits. In the late 1970s and early 1980s, the sharp rise in interest rates, the increase in the prices of oil and oil products (such as chemical fertilizers), and the decline in certain farm prices (beef and pork, for example) all combined with structural problems to aggravate the situation of farmers. In addition, the relative share of interest payments in operating costs rose throughout the 1970s, from 8.5 per cent in 1973 to 15.4 per cent in 1980 – an increase of 80 per cent. As shown in Chart 6-5, the interest coverage ratio – i.e., the ratio of gross farm income to interest payments – declined dramatically between 1961 and 1980.

Chart 6-5

Interest Coverage Ratio[1] in Agriculture, Canada, Selected Years, 1961-81

1 Defined as profits before interest and taxes, divided by interest payments.

SOURCE Estimates by the Economic Council of Canada based on data from Statistics Canada

The long-term structural problem in farm finance is caused by the absence of a credit instrument to deal with the gap between nominal and real incomes or between accrued income and what can be realized in cash. Governments have tried to close the gap by offering subsidized loans to farmers. But virtually every policy directed at increasing farm income by reducing the cost of credit ultimately has the effect of increasing the total return on land;[21] thus it is not a long-term solution to the problem considered here.[22]

Many lenders are conscious of the lack of an adequate long-term financial instrument adapted to the needs of farmers. Accordingly, some of them have offered deferred-interest loans to farmers with liquidity problems. A number of lenders accept lower initial payments or waive them altogether for a period of time, the arrears of interest being added to the balance of the loan.

The Indexed Farm Mortgage

We believe that the best way to solve the structural problem described above would be to introduce a new financial instrument – the indexed farm mortgage, similar to the residential indexed mortgage discussed in the preceding chapter. The characteristics of this instrument are described in Chapter 5 and in Appendix F.

An indexed loan would give the farmer an opportunity to reduce his monthly payments considerably and to make the adjustment to inflation on the unpaid balance of the loan rather than on the interest rate. Such an adjustment would parallel the adjustment to inflation of his total income, which often takes the form of an accrued capital gain on his land.

The indexation factor may be a source of concern. Farm product and input prices often fail to move in step with other price indexes. What would be the borrower's situation if, for example, his indexed debt, but not his gross income, were to increase at the same rate as the consumer price index? Two cases have to be considered.

If future inflation can be predicted with a relatively small margin of error, the borrower would be able to choose between an indexed farm mortgage and a standard mortgage where the interest rate incorporates the expected rate of inflation. In 90 per cent of our simulations, the borrower is still better off with an indexed loan than with a standard mortgage (Appendix F). In the example presented in Table F-2, the present value of the borrower's cash flow after subtracting monthly payments is higher by $14,100 (or 28 % of initial equity) if he takes an indexed loan than if he takes a standard mortgage. Moreover, the farmer can choose between different indexing factors, as discussed in Appendix F.

If inflation is expected to reach high levels that cannot be forecast with any precision, the lender will refuse to grant a standard long-term loan. If there is no indexed mortgage, the borrower will have to accept a 30-year amortized loan, renegotiable every three years or even annually. If there is an indexed mortgage, it will be the only long-term financing instrument and will enable the borrower to finance his capital outlays, thereby greatly reducing his financial risk.

For the lender, the periodic adjustment of the outstanding principal of an indexed loan represents part of the return from the loan. As in the case of residential indexed mortgages, the adjustments of the principal outstanding raise a tax-treatment problem. Therefore, indexed farm mortgage loans would be especially attractive to nontaxable lenders, such as pension funds and registered retirement savings plans. The potential supply of indexed funds could be increased, if the contingent interest on agricultural loans were tax-exempt for active or retired farmers, who could then allocate their profits to the continued development of the agricultural sector.

This new instrument would reduce the repayment difficulties experienced by farmers by adapting their monthly payments to their cash flow. Its introduction should be accompanied by a modification of the conditions and methods of government financial assistance; in particular, the use of subsidized loans to solve structural liquidity problems that confront farmers should be discontinued. Accordingly,

20 We recommend that governments encourage the introduction of indexed farm mortgages and their purchase by tax-exempt lenders, such as pension funds and registered retirement savings plans. We further recommend that farmers and former farmers be allowed to establish special funds equivalent to RRSPs to hold the indexed farm mortgages they have acquired.

This special fund, which would be tax-exempt, would, among other things, induce farmers who have sold their operations to reinvest the proceeds in agriculture.

An information problem could, however, delay the introduction of indexed mortgages. Pension funds and registered retirement savings plans have not maintained close ties with agriculture, at least not in the context envisaged here. Their managers would probably find it difficult to assess a loan application originating from the farm sector. They might therefore require assistance in this area during the years immediately following the introduction of indexed mortgages. The development of a secondary market for these mortgages would also help to increase their liquidity and would encourage the participation of pension funds and registered retirement savings plans in this new form of farm financing. For this reason,

21 We recommend that, during a transitional period, government insure the principal, the interest, and the contingent interest of indexed mortgages against default of payment on the part of farmers, and that it offer to analyse credit applications by farmers on behalf of private lenders. We further recommend that government encourage the development of a secondary market for indexed farm mortgages.

Government could (through a departmental branch, for example), for a fee, analyse a farmer's credit application and issue a guarantee certificate. This procedure is akin to that of the TANDEM program recently put in place by Quebec's Office du crédit agricole, which seeks to meet all of the financing needs of farmers in that province for the short, medium, and long terms. By directing his inquiries to the Office, a farmer can usually obtain nearly all of the credit that he requires. If the analysis of the applicant's request is favourable, the Office issues a certificate indicating the amount and the other terms of the loan that the provincial government is prepared to guarantee. The farmer then presents this cerfiticate to the lender of his choice.

The guarantee provided by the Office is usually accompanied by a reduction in the interest charge for the farm operator. But it should be remembered that in the case of an indexed mortgage the farmer would only make the cash payments at a real interest rate, well below the nominal market rate, the adjustment to inflaton being made on the balance owing. The creation of a "farm investment corporation" as a public or mixed enterprise, or as an association of private lenders could also be envisaged. The corporation would underwrite indexed farm mortgages and would put up for sale blocks of mortgages carrying a government guarantee. This would help to overcome the reservations that the managers of pension funds and registered retirement savings plans may have about supplying funds to the farm sector because of their lack of experience in this area.

We have noted above that it is possible to find credit gaps in certain specific circumstances. Indexed mortgages would not resolve this sort of problem. Government must, in such cases, continue to compensate for private-sector deficiencies. Accordingly,

22 We recommend that, where there is a strong presumption that the farm finance market is not functioning properly, governments offer loans of last resort at terms and conditions commensurate with the risks and costs involved.

The "risks and costs involved" are those that are associated with individual loans. If few farmers are suffering from a credit gap, public agencies may not be able to put together a portfolio large enough to diversify the risks. Government may then have to assume part of the bad debts directly, but without subsidizing individual loans.

Beyond these structural problems, farm operators are also up against shorter-term financing difficulties of a cyclical nature, which are often caused by a cash-flow shortage relative to their operating costs. This problem is especially severe for farmers whose unencumbered assets are very limited, either because they are already deeply in debt or because they rent the farm where they work. We are well aware of the

importance and seriousness of these cyclical problems, as well as the urgent need to remedy them. We believe that these problems cannot be solved with indexed mortgages. These cyclical financing difficulties mainly result from the inherent instability of farm activity and income. Thus their solution falls in the second category of objectives that government pursues in its intervention on the farm finance markets – those that are related to the agricultural sector as a whole, to the performance of the economy, and to the social and economic welfare of Canadians.

Socio-Economic Goals

Throughout the first half of this century, government participation in farm financing activities was often part of an overall strategy which took into consideration not only economic aspects but social and demographic dimensions as well. Direct loans aimed at encouraging the development of new farm lands, the resettlement of displaced miners and of war veterans, and measures intended to halt the rural exodus are examples. We readily endorse the goals and motivations that have sparked government participation, but we question the merit of resorting to financial instruments to achieve goals arising from quite different concerns.

The objectives of government in the agricultural sector are interrelated. Thus, while attempting to improve the operation of the farm finance market, public intervention in this area also aims at providing Canadians with an agri-business sector that assures them an adequate degree of national self-sufficiency in food production at relatively reasonable and stable prices. This goal can be achieved only if farmers receive an adequate compensation for their work and for the capital and labour that they employ. The returns on these factors must be comparable with those found in other sectors; otherwise transferable factors of production will be redirected towards other economic activities. Moreover, it will be possible to achieve this goal only if the farming sector is efficient and expands at the same rate as the demand for food products and if young farmers follow the vocation of their elders.

When the agricultural policies of the various levels of government in Canada are considered overall, few programs are specifically intended to meet these concerns individually. Most programs have multiple objectives: assisting young farmers; improving the efficiency of farm operators in every age group; increasing the acreage under cultivation no matter what crop or commodity is produced and sometimes encouraging the production of specific crops; and so on.

Assistance to Young Farmers

Beginning young farmers are eligible for financial assistance under most, if not all, of the federal and provincial programs. Thus the aid granted to young farmers by the Farm Credit Corporation is aimed at facilitating the intergenerational transfer of farms, in order to maintain the stability and continuity of the agricultural sector. Without the existence of mechanisms – especially in the form of financial support – permitting this transfer in an orderly fashion, farm operations might be carved up into a large number of nonviable units, or farm production might be concentrated in the hands of a few large corporations. In either case, the result would lead to rural exodus and to the disappearance of a way of life that is favoured by many Canadians.

Since fiscal 1976/77, more than 70 per cent of the loans approved annually by the FCC have gone to farmers under 35 years of age. The amount of assistance given by the Manitoba Agricultural Credit Corporation to young farmers amounted to more than half of the total credit extended during 1974/75, and this proportion reached 85 per cent by 1978/79. In Alberta, the great majority of loans granted by the Agricultural Development Corporation during fiscal 1978/79 went to young farmers, at a preferential interest rate of only 6 per cent. The age distribution of the recipients of assistance from these three agencies – which jointly account for 86 per cent of all public loans earmarked for farmers – attests to the importance of government efforts in supporting young farmers. By comparison, only 21.4 per cent of all farmers in 1981 were under 35, while less than 50 per cent were under 45. This effort on behalf of young farmers facilitates the intergenerational transfer of farms, to the extent that it contributes to reducing the difficulties that generally confront young farmers, such as high start-up costs, low initial returns to production, cash flow problems caused by a large share of income accrued in the form of capital gains, and so on.

Naturally, it is less certain that subsidized loans and guarantees are the instruments best suited to overcome these difficulties. While they may initially make it easier for young farmers to establish themselves, they also lead to a general increase in land values, thereby affecting the cost of purchase for other farmers or would-be farmers. In the final analysis, it is far from certain that indirect subsidies actually assist beginning farmers. The benefit that they provide may only be apparent, since it may well have been incorporated into the price of the land before its purchase. One cannot rule out the possibility that these farmers ultimately pay a higher price than they would in the absence of public loans and guarantees granted at

preferential rates. We believe that substituting indexed mortgage loans for the financial instruments currently in use could be a solution to this problem. The removal of subsidized loans in their present form would slow down the rate of land appreciation and would thus be of benefit to all farm operators.

Viability and Stability

In order to foster the development of a strong farm sector, its dynamism must be ensured by facilitating the intergenerational transfer of farm land, and the viability of new and existing farms must be sustained. Several public financing agencies use viability as a selection criterion, while others view it as the purpose of their assistance.

The viability criterion is used by various agencies in entirely different ways. The statutes and regulations governing some of them prevents them from offering assistance to farms that have already reached a certain level of viability, while in other cases public funds are not to be provided to farms that do not have a reasonable prospect of becoming viable.[23] In seeking to make farms viable government is trying to deal with many different concerns. An increase in viability through improved efficiency is a step towards greater self-sufficiency in food production at better prices, since it serves both to lower the costs of food produced in Canada and to reduce imports of foreign products, as the latter become less competitive. Greater viability also improves farm yield, therefore increasing incomes. Farm incomes can then be compared favourably with those earned in other sectors, which is the goal pursued in the name of both equity and continued self-sufficiency. Finally, farm viability may slow down the rural exodus.

George Brinkman separated farms into three categories: predominantly hobby farms with declared 1976 gross sales of less than $5,000; limited-resource farms, with gross sales of $5,000 – $30,000; commercial farms with gross sales of over $30,000.[24] In the first category are found 31.2 per cent of farm tax filers, but they only account for 1.8 per cent of all gross farm sales; the second category accounts for 40.6 per cent of farmers and for 18.9 per cent of sales; 28.2 per cent of farm tax filers operate commercial farms, which account for 79.3 per cent of all gross sales. Commercial farms are viable operations, while limited-resource farms do not have the physical and human resources to reach the level of production of commercial enterprises. Limited-resource farmers generaly have outside employment. As for the first group, it includes part-time farmers for whom farming is not the main occupation.

Forbes, Hughes, and Warley have divided farms into nonviable, marginally viable, and already viable farm businesses.[25] The last category, which includes about 15 per cent of Canadian farms, accounts for two-thirds of agricultural production. These are generally family farms employing modern methods of production and management. Marginally viable farm businesses are family operations which, for different reasons, could not achieve a volume of sale high enough to ensure long-term viability. Nonviable farm businesses are hobby farms, part-time farms operated by farmers with off-farm jobs, or part-time farms operated by full-time farmers. They have limited resources, use outdated technology, do not benefit from economies of scale, and have a very low volume of sales.

Normally, government provides assistance to the third category of farms – Brinkman's "commercial farms" or the "already viable farm businesses" of Forbes, Hughes, and Warley – only when they are confronted with difficulties without their long-term viability being threatened. These difficulties may arise from the instability of the prices for certain farm products, unfavourable cyclical movements, interest rates increases, reduction in crop yields, bad weather conditions, or structural cash-flow problems caused by borrowing for rapidly expanding operations. Many such farms have experienced difficulties in recent years, as the sharp rise in interest rates has been coupled with the lack of a long-term financial instrument after a few large public agencies reduced their lending activities. Government has a role to play in maintaining a stable flow of funds to ensure that cyclical problems will not jeopardize the long-term viability of these farms. Moreover, as private institutions become more familiar with the agricultural sector, they can also be expected to contribute to the stability of farms.

Government may also assist in financing large investments in the second category of farm operations – "limited-resource" or "only marginally viable" farms – which, as a result, could gain long-term viability. Since viability would come about only after some years, and given the financial risk of agricultural activities, such financing may not be profitable when measured by private-sector criteria. It may be profitable in a social sense, however, since it could help to curb the rural exodus, to ensure the continuity and stability of the agricultural sector, and to maintain the operation of family farms.

If provincial and federal loan and loan guarantee programs have helped farmers to maintain or expand their level of operations, will these farmers ever be able to do without this assistance? It is very difficult to provide an empirical answer to this question, as loans are extended for terms of 30 to 40 years. On the other hand, the granting of permanent assistance

to farmers unable to survive without it is quite consistent with agricultural policies aiming to keep a balance between the urban and rural populations or to encourage the development of small family farms. The viability of such farms could, of course, be secured by an increase in the price of farm products. But, in a context where many prices are regulated, a measure of this type would be contrary to the goal of a steady supply of agricultural products at reasonable prices. Therefore, the most direct route is not always possible for government.

A large number of government programs are aimed directly or indirectly at making farm operations viable and at providing capital and labour with the same returns that they would get in other sectors. Among these programs are, to name but a few, crop insurance plans, income stabilization measures, and marketing boards, as well as assistance to transportation, labour training, and technical development. Such programs are better suited than loans and loan guarantees to the solution of problems extending beyond the financial markets – such as income instability, technical problems, or management difficulties.

For example, the familiarity of farmers with certain management techniques could be increased. The survey carried out by the Canadian Bankers' Association shows that only 21 per cent of Ontario farm producers and 19 per cent of Prairie farmers use futures contracts; the corresponding figures for farm operators using the services of a commodities broker are 12 per cent in Ontario and less than 6 per cent in the Prairies. If farmers had access to a greater number and variety of instruments, such as options on farm products, they would then be better able to stabilize their income flows and to improve the financial management of their business.

The Maintenance of a Minimum Income and the Development of Specific Products

In addition to income parity, government programs are also aimed at guaranteeing minimum incomes. While, as several studies suggest, the incidence of poverty in the agricultural sector is declining, it has not disappeared altogether. But subsidized loans and guarantees are not the most appropriate instruments for redistributing income in favour of farmers. They do indeed contribute to increasing the value of farm lands, and some researchers consider this appreciation to be an integral part of farm income. In this sense, subsidized loans and guarantees are a factor in income growth. When government seeks to guarantee a minimum income for farmers, however, it does so in order that farmers may have an adequate standard of living, comparable with that offered in other spheres of economic activity. Because capital gains are not a cash income, they cannot be used for current farm expenditures. Other instruments, such as taxation and government spending, which have an effect on the liquid assets of farm operators, seem to be more appropriate to guarantee a minimum income for farmers.

Finally, some provincial agencies use loans and guarantees as instruments of their government's agricultural development policies. When, for example, a provincial government wishes to promote cattle production, its agricultural assistance agency will follow by trying to direct its financing more towards this kind of activity. The internal assessment made by one provincial agency shows that many farmers would have carried out their expansion projects even without the assistance received from that agency. It is possible, however, that in the absence of this public assistance the projects would not have been as large. Thus it is difficult to assess the effects of these programs with any precision. Finally, provincial government intervention to stimulate specific areas of agricultural production may be detrimental to farm operators in other provinces. Consequently,

23 While we recognize that the development of a healthy and self-sufficient agricultural sector is an important government objective and that assistance should be given to both young and established farmers in order to make their operations viable, we recommend that the use of loans and loan guarantees for these purposes be avoided as much as possible. Instruments such as production subsidies, capital grants, tax incentives, and technical assistance are better suited to meet these objectives.

In other words, if a farmer experiences difficulties concerning the treatment of soil or the health of his livestock, he should have access to technical assistance. Similarly, if the goal is to increase farm employment, tax incentives are a more adequate instrument.

Conclusion

The assistance provided by government to farmers through financial instruments has evolved over time. At the turn of the century and during the 1930s, governments focused on nonfinancial instruments, such as direct subsidies, whereas during the 1950s and 1960s, they turned to loans that often incorporated an important indirect subsidy. More recently, the financial constraints confronting both levels of governments compelled them to slow down the growth of their lending activities in favour of guarantees, which have a lesser impact on their budget.

Agriculture is a vital sector of the Canadian economy. Not only does it provide essential food

products, but it is also the way of life chosen by many Canadians. It is, therefore, important to maintain its vitality and dynamism. To that end, an adequate supply of funds must be made available to farmers in the appropriate forms. The problems that existed in the past concerning the quantity of such funds became much less severe in the 1970s. Whether farms are considered together or according to their size, their activities, the province in which they are located, or the age of the owner, it is not possible to find evidence that a generalized gap in farm credit exists. We believe that adequate funds from private sources are generally available to Canadian farmers at terms and conditions that are appropriate in relation to the risk involved and to prevailing trends. A serious problem remains, however, with respect to the design of farm financing instruments. The introduction of indexed farm mortgages would help to alleviate the financial problems faced by farmers, without generating some of the adverse effects of subsidized government loans and guarantees. In addition, a range of nonfinancial instruments should be employed to deal with those problems confronting agriculture that go beyond structural financial difficulties, whether in the area of production methods or of cyclical cash-flow fluctuations.

7 Efficiency and Control

In the preceding chapters, we have examined the economic efficiency of government loan and guarantee programs and agencies in four major sectors of the economy. We have not dealt, however, with the technical efficiency of the means used to achieve the objectives pursued, nor with the mechanisms established by government to ensure that its interventions in financial markets meet these goals at the least cost.[1]

The uniqueness of the circumstances in which government intervenes makes it difficult to draw firm conclusions from an analysis of the technical efficiency of Crown corporations and public programs. Such analysis nevertheless underscores the lack of appropriate criteria to guide program managers in their work, which reduces their efficiency. There are, on the other hand, many control mechanisms, but these are not fully utilized.

Technical Efficiency

In the private sector, profitability in a competitive environment is the efficiency criterion generally recognized by businessmen and economists. This criterion, however, cannot be applied to government financing agencies and programs, since the objectives they pursue lead them to operate in areas that the private sector had not considered profitable, and their activities are therefore not comparable with those of private financial institutions. Thus some public agencies often encounter very high costs in gathering information or face risks that are too great to be reduced through portfolio diversification, while others hold specialized portfolios offering little room for diversification. Moreover, the social goals pursued by government often diverge from the private profit motive. The analytical difficulties posed by this divergence could be resolved by setting up a social-profitability criterion, but this solution is not very realistic because of the difficulties in quantifying social benefits and costs. In the absence of rigorous criteria, our analysis must then be based on more general indicators.

Administrative Costs

Administrative costs, an important element to be considered in the analysis of technical efficiency in any enterprise, vary considerably from one agency to another: from 1.3 cents to 26.4 cents per dollar of financial assistance outstanding to business (Table 7-1) and from 0.6 cents to 2.3 cents per dollar in the case of the agricultural sector.

Administrative expenses include such items as the cost of gathering and analysing information on prospective clients, the expenses related to the disbursement of funds and the collection of interest, dividends, and repayments, and the cost of monitoring accounts. Public agencies that lend to business, although their activities resemble those of private financial institutions, register higher administrative costs than their private counterparts. Underlying this difference are such factors as levels of operation that are too low to permit an agency to benefit from economies of scale, the small size of transactions, the absence of a network of branches (the Federal Business Development Bank is an exception), and the nature of the objectives assigned to such agencies. Although the relative importance of each of these factors is difficult to assess, available data suggest that there is no relationship between average loan size and administrative costs.

Bad Debts

The relative importance of losses registered by a financial institution can be another indicator of its technical efficiency. Provisions for losses, when correctly established, represent the losses projected. When this indicator is compared with the book value of the loans and investments of certain private institutions specializing in business finance, their provisions for losses are seen to be, at least in recent years, lower than those of the public agencies.

In an analysis of loan losses, a distinction must be made between the risk of default and the risk of financial loss. The former is akin to the probability

Table 7-1

Assets, and Administrative Expenditures[1] and Provision for Losses as a Proportion of Loans and Investments Outstanding, Selected Financial Institutions, Canada, 1978-79 (Average)

		Proportion of:	
	Assets	Administrative expenditures	Provision for losses
	($ Millions)	(Per cent)	
Public institutions			
Federal Business Development Bank	1,562.6	3.3	3.6
Ontario Development Corporation[2]	194.0	4.2	6.8
Industrial Estates Limited[2] (Nova Scotia)	129.5	1.3	3.8
Saskatchewan Economic Development Corporation[2]	120.5	2.8	5.4
Société de développement industriel (Quebec)	113.5	2.6	9.4
Alberta Opportunity Company	72.7	3.2	8.0
British Columbia Development Corporation	71.0	3.6	7.4
Industrial Enterprises Incorporated[2] (Prince Edward Island)	21.2	3.9	..
Newfoundland and Labrador Development Corporation	17.3	6.9	16.9
Communities Economic Development Fund (Manitoba)	2.4	26.4	18.9
Private institutions			
Roynat Limited	579.8	1.5	1.7
Crédit industriel Desjardins	77.8	1.7	1.5

1 Does not include interest and loan losses.
2 Including real estate operations.
SOURCE Estimates by the Economic Council of Canada based on the annual reports of the various institutions.

that the client's income will be insufficient to service the debt that he has contracted, whereas the latter depends not only on the risk of default, but also on the probability of recovering the funds advanced, which is determined by the value of the collateral and by the rank of the claim.

In general, the claims of public agencies are subordinated to those of private institutions, especially in the case of joint loans. If the borrower defaults, the amount recovered by the public agency is therefore generally less than that recovered by its private counterpart. A higher risk of financial loss may thus explain the differences in the level of bad debts between public and private institutions.

Furthermore, the risk of default borne by public agencies may be higher because they assume risks that private institutions would not consider taking. To some extent, this probably applies in the cases of the Export Development Corporation and to various farm finance agencies; it applies only to a lesser extent to Crown corporations and boards participating in business finance.

Finally, the losses could be even higher if we look at government as a whole, rather than at each agency separately. While two or three public agencies may occasionally finance a project jointly, thus spreading the risks between them just as private financial institutions forming a syndicate spread the risks among themselves, in the final analysis, government bears the risks alone.

Management Procedures

A more direct approach to analysing the technical efficiency of government lending agencies is to study their administrative procedures. Public-sector managers are in many respects similar to their private-sector counterparts. They have been taught the same techniques and, indeed, are often former employees of private financial firms. It is not surprising, therefore, that their methods and procedures are similar to those employed in the private sector. Basically, a loan application is analysed in the same way by both private- and public-sector managers, with the major emphasis on a proposed project's viability and on the collateral offered. Differences between public agencies and private institutions can, however, be found in the time devoted to analysing a loan application and in the assistance provided to the applicant in presenting his request.

While the public-agency manager tends to apply the same procedures as his counterpart in the private sector, his job is complicated by the fact that the objectives assigned by government are generally defined in broad terms and cannot easily be translated into operational targets. The private-sector manager must show a profit or increase his firm's assets, but his public counterpart must maximize the

social and economic benefits to Canada or to a particular province, without having received instructions from government telling him how to identify or measure these benefits.

Furthermore, the multiple objectives assigned to public agencies would require different operating procedures. For example, agencies may be asked to carry out, simultaneously, policies intended to make up for some private sector shortcoming and to boost economic growth or improve Canadian living standards. As we have stressed in the preceding chapters, the simultaneous pursuit of these objectives by an agency or program does not facilitate the management of its activities and complicates the assessment of its impact on financial markets or on the economy in general. A first step towards streamlining the operations of public financing agencies would be to separate the activities aimed at correcting imperfections in financial markets from those directed towards broader economic objectives. Therefore,

24 We recommend that, where appropriate, two categories of assistance be established within a public financing agency – one dealing with filling potential credit gaps, the other dealing with broader social objectives. The activities under each category should be governed by different criteria and have separate accounting.

Large agencies could separate physically these two types of assistance. In smaller agencies, where such a physical separation might be impractical, different managerial procedures with separate accounting could still be adopted. Separating a financial institution's activities on the basis of the services provided is certainly no innovation. The two categories of assistance could be managed in the same way as the different categories of deposits or loans provided by chartered banks.[2] Just as personal and nonpersonal deposits and business and personal loans are administered separately in accordance with their own specific criteria and directives, administrators of public agencies could apply different criteria when compensating for deficiencies in financial markets or when pursuing social objectives extending beyond these markets. In the first case, financing would be provided when there is good reason to believe that the private sector has no economic justification for refusing finance, and the interest rate charged would be high enough to cover all of the costs and risks. In the second case, financing would be provided under favourable terms with a view to influencing the behaviour of economic entities in the direction desired by government.

This separation, however, would solve only some of the conflicts among the objectives pursued by one government agency or by several agencies operating in the same market area. Other incompatibilities may remain. For example, assistance to small and medium-sized firms may conflict with measures to restructure industry by building up firms to a size large enough to take advantage of economies of scale in such areas as research, production, and marketing. Such conflicts should be resolved in line with government priorities, which should be communicated clearly and in detail to the public agencies.

Aside from the problems caused by multiple and vague goals, the management of public financial intermediaries lacks clear directives on how these objectives can and should be achieved. From a financial point of view, one can devise guidelines for managers of these agencies, based on what might be called the private-sector accounting rate of return. This is the before-tax rate of return that private financial institutions, such as chartered banks, trust companies, and term lenders like Roynat or Crédit industriel Desjardins, realize on their own operations.[3] This rate is, in a sense, the opportunity cost of funds invested in public agencies, since it represents the rate of return that society could obtain if government chose to invest in private financial institutions rather than in its own agencies and programs.

The difference between the public agency's income from loans, investments, and guarantees, on the one hand, and the summation of administrative costs, loan losses, and the opportunity cost of funds calculated on the basis of the accounting rate of return of the private sector, on the other, is called its net surplus. The net surplus would be zero whenever the public agency's rate of return would be equal to its opportunity cost of funds, as should generally be the case when its objectives do not call for a subsidy (to fill a credit gap in the financial market, for example). A negative net surplus means that an agency is not providing adequate remuneration for all of the inputs out of its own operating income, while a positive net surplus means that the capital invested by government is earning an excessive return. An agency whose objective is to capture some social benefit or whose loan portfolio is too small to allow for adequate risk diversification, should be told in advance the amount of subsidy that it may distribute in view of the benefits expected or the amount of bad debts that will be assumed by government.[4] This will be equal to the amount of the authorized deficit.

25 We recommend that public financing agency managers be given financial guidelines consistent with the different categories of objectives pursued.

This alone is not enough to ensure that the objectives will be met within the means at an agency's

disposal. It is also important that government monitor the agency's activities.

Government Control

A large number of instruments are available to enable government to control its public enterprises. This control can be exercised at three levels: at the budget level (assignment and use of budgets), at the procedural level (e.g. selection of clients, choice of financial instrument, internal operating procedures), and at the objectives level (definition and means of achievement). The control may be exercised by three groups in government, namely, the executive, the legislature, and the Auditor General.

Exercising Control

The executive branch of government at either the federal or provincial level can exercise control through the Cabinet, the minister responsible for the agency, the minister of finance, or the president of the Treasury Board. Several methods are available to the Cabinet, ranging from the designation of the minister to whom the agency reports to the approval of its regulations. The Cabinet also has the power to remove administrators, approve capital and operating budgets, approve certain loans and contracts, and issue directives. In turn, the Minister responsible can issue a ministerial directive, request information and special reports, and submit the agency's budget or audit report to Parliament or to the provincial legislature for its consideration. The minister of finance and the president of the Treasury Board both play an increasingly important role with respect to Crown corporations. The former lends money to these institutions and establishes the conditions of the loan, while the latter approves their operating and investment budgets. These powers are largely confined to financial control rather than achievement of the objectives assigned by government to its agencies.

Legislatures can exercise control through questions and submissions by members and through inquiries that they may conduct. Questions in the legislature tend, however, to be confined to those few agencies, usually public utilities, that command a good deal of public attention. Reviews by standing committees represent another means by which the legislature can exercise control over public agencies, but few of these have the authority to scrutinize Crown corporations. Members may also derive useful information from the annual reports that the agencies are required to submit each year to Parliament or to their provincial legislature, giving account of their performance during the year.

Traditionally, the role of the Auditor General has been primarily to ensure that public funds have not been expended fraudulently or negligently. That role, however, is in the course of being expanded. At the federal level, the Auditor General now has been empowered to report on the quality and quantity of the services rendered by an agency in return for the public funds that it has received. Members of the accounting profession, particularly those involved in the Canadian Foundation for Integrated Auditing, have also proposed an extension of the auditor's role to include assessment of the technical and economic efficiency of government activities.[5]

Instruments of Control

In order to assess the use and effectiveness of the major instruments of control available to government and legislatures, we conducted a survey of 28 Crown corporations and one board, which together administer over 90 per cent of the assistance outstanding distributed by the 42 public agencies and boards examined in this report. The programs that are administered directly by ministers have been excluded. Of the 29 agencies surveyed, 14 offer loans to the business sector, five to the agriculture sector, nine to the housing sector, and one to the export sector.

Budgets

The results of the survey show that financing agencies are generally subject to strict budgetary control. The minister responsible and the Treasury Board, in addition to approving the total budgetary package, often impose constraints on the use of funds, which is frequently studied by a legislative committee as well. Since most agencies are financed directly by government, it is normal for Treasury Board to subject them to the same rules of spending control as those applied to government departments. They do, however, appear to enjoy greater latitude in the use of funds. Two budgets must generally be approved: an operating budget and a capital expenditures budget. The agencies cannot transfer funds from one budget to the other, but they can, within each budget, transfer amounts from one program to another, which government departments cannot do.

Most financing agencies obtain the funds that they require directly from government (Table 7-2). But, because of the budgetary constraints recently experienced by some governments, certain agencies have been encouraged to borrow directly on financial markets. The Export Development Corporation, for example, has long borrowed in the Eurodollar market, whereas it is only recently that the Federal Business Development Bank has become an active borrower on financial markets. The Farm Credit Corporation has just received authorization to tap these markets

Table 7-2

Distribution of Liabilities of Selected Government Agencies, by Type and by Sector, Canada, 1980

	Business	Exports	Housing	Agriculture	All four sectors
			(Per cent)		
Debts to the private sector					
Short-term	1.4	11.8	1.6	0.1	2.9
Long-term	8.2	36.1	0.2	0.1	6.7
Subtotal	9.6	47.9	1.8	0.2	9.6
Debts to governments					
Short-term	7.3	2.5	2.2	1.2	2.7
Long-term	69.3	21.6	93.3	95.3	79.6
Subtotal	76.5	24.1	95.5	96.5	82.3
Equity	13.9	28.0	2.7	3.3	8.1
Total	100.0	100.0	100.0	100.0	100.0

SOURCE Estimates by the Economic Council of Canada based on the annual reports of the various agencies.

directly in order to fund its farm loan activities. It should be remembered that the funds advanced by the private sector to public financing agencies as of March 31, 1980, represented 25 per cent of the federal government's debt outstanding and of that of the government of Nova Scotia, and 57 per cent of the debt of Alberta (Table 1-7).

These direct borrowings on financial markets may not lessen the government's budgetary control, since the agencies' borrowing powers are based on the equity contributed by government. It is not clear, however, whether direct recourse to financial markets by public agencies actually improves the government fiscal position. Capital markets consider securities issued by public agencies as an indirect government debt; thus, even if government reduces its direct borrowing, its credit rating remains the same. Furthermore, the cost of arranging a loan is greater when an agency does it by itself than when that loan forms part of general government borrowing. The cost of a new issue is related to the total volume of the securities offered, and the amount of borrowing by each agency is too small for it to benefit individually from the same low rates of interest available to government itself.

Budgetary control by elected representatives over public financing agencies is much less strict than that exercised by government officials. At both the federal and provincial levels, governments do not submit to the legislatures a full account of the loans and guarantees authorized and granted. Although estimates of the loans to be granted in a fiscal year may appear in the spending estimates tabled in Parliament or in the provincial legislatures, the same generally does not apply to the amounts of guarantees or the potential losses that they may involve. Information about loans is unevenly reported, some agencies (especially at the federal level) providing more details than others. In addition, the loans issued by agencies are reported in more detail than those issued by departments, and assistance provided under a program is more fully reported than *ad hoc* assistance. To obtain a complete picture of the loans and investments held by government and of government's contingent liabilities attributable to guarantees, the public accounts, which are published often after several years' delay, must be examined page by page. Under such conditions, it is difficult to assess the cost of government loan and guarantee activities. In fact, the Auditors General of Canada and Quebec recently complained of this very situation. In view of the importance of assessing the scope and the costs of government participation in financing the private sector,

26 We recommend that Members of Parliament and of the provincial legislatures be given the opportunity to debate the amounts of the loans and guarantees to be granted in a given fiscal year by the financing agencies under their respective jurisdictions.

Loans and guarantees can be reported to the members in many ways.[6] Loans and investments are generally reported in detail, since they constitute an immediate government expenditure. The matter is not as simple, however, for guarantees, where only the losses actually suffered by government represent an expenditure. In theory, the accumulated provisions for loan losses could be included in the spending estimates. As a practical matter, this may be inadvisable, especially in the case of specific guarantees, since it may prove difficult to determine the potential loss and also because for political and economic

reasons government may be reluctant to reveal its anticipated loss. On the other hand, a government guarantee allows an individual or a firm to obtain financing that it otherwise might not have been able to secure, and it is the total amount of this financing, rather than the sums paid out by government to cover possible losses, that has an impact on the economy. In order to determine the economic and social impact of government guarantees, the total amount of financing guaranteed should be examined. The Council believes that it would be more meaningful and informative to show the total amount of guarantees in force and the amount that government expects to grant during the fiscal year. This amount does not represent a government expenditure, since the immediate expenditures involve only the administrative costs incurred and the provisions for losses. But to assess the merits of government expenditures, one must be able to measure its impact on the economy as a whole.

The Procedures

The control over the actual operations of a public agency is generally not as tight as that exercised over its operating and capital budgets. This control is usually exercised internally within the agency, although the minister or his representatives occasionally also become involved. The minister responsible, who reports to Parliament or to the Legislature, tables the agency's annual report and must answer any questions by members on its activities. In the case of business loan agencies, the minister responsible usually holds the portfolio for economic development or industry, trade and commerce. The minister of agriculture is, of course, responsible for lending agencies in the agriculture sector. In the housing sector, the situation differs somewhat, since, in many cases, there is no ministry of housing *per se*. Responsibility for the agencies then rests with the minister of municipal affairs or another minister holding several portfolios.

The directors of these agencies are appointed by government. They include ministers, deputy ministers, or senior public servants, which ensures additional government control over its financing agencies.[7] However, regardless of whether the minister is a member of the board of directors or not, he may intervene in an agency's operations to a greater or lesser extent, depending on circumstances or tradition. In the case of half of the agencies surveyed, the minister responsible has, at some point in time, issued policy or procedural directives. Sometimes the decision of the board of directors concerning a request for financial assistance above a certain amount, which varies from one agency to another, must be approved by the minister responsible or by the Cabinet. Board decisions are not automatically approved by the political authority. Occasionally, there are differences of opinion between the minister and the board of directors. For example, some agencies (the Export Development Corporation and the Nova Scotia Resources Development Board, among others) report their financial operations under two accounts: their own and the government's, which includes loans lying outside the agency's mandate.

Legislators also take an interest in lending agencies. Usually their questions in Parliament or the provincial legislature deal not with objectives or subprograms, but rather with specific aspects of a particular loan transaction. Twenty-seven agencies have been subjected to such scrutiny, but only eight of them, representing more than 20 per cent of total assistance outstanding to the private sector, have been subjected to more thorough questioning.

The degree of control exercised over the operations of financing agencies varies from one sector to another. The agencies providing housing assistance are, in many respects, similar to government departments. In several provinces, the lending agency is often larger than the ministry, whereas, in others – Nova Scotia, for example – it simply takes its place. The agency's role, then, is not just to lend but also to promote and administer public housing. It is responsible for assistance to municipalities and the distribution of grants. To some extent, it is the primary government agency in the area of housing, and financing is not always its most important role. In agriculture, the ministry and its lending agencies perform complementary roles, the agencies being responsible for implementing the government's farm finance policies. The adaptation of an agency's policies to those of the government of the day is facilitated by the rather vague fashion in which the objectives are set. A form of tacit sharing of responsibilities has usually been established between the agencies and the ministry; financial assistance is left to the agency, while the other programs are handled by the ministry. Finally, the degree of control over the activities of business loan agencies varies from one agency to the next. Because they intervene in strictly financial activities, often in competition with the private sector, public business-loan agencies tend to have greater autonomy. Their managers are more inclined to adopt the style of the business world. Their clientele is not as homogeneous as that of other agencies and their operations are more complex. These characteristics may, to some extent, shield them from the curiosity of legislators.

Legislators and the public at large could more easily evaluate the operations of public loan and

guarantee agencies if they had a means of determining whether or not the agencies had invested wisely in viable projects or had distributed the amount of subsidy judged to be necessary to fulfill their social role. The sale at regular intervals of a fairly large part of their loan portfolios could provide a form of control over the operations and effectiveness of the agencies. Loans that incorporated a subsidy would be sold at a loss. This system would also enable the government to recover part of its outlay of funds and apply them to other uses. This sale would provide a means of controlling the nature of the portfolio acquired by the agency. It would provide a test of whether the agency had responded to a need stemming from a credit gap or whether the desired amount of subsidy had been incorporated in the loans. Therefore,

27 We recommend that the federal and provincial governments consider the possibility of regularly selling off part of the loan portfolios of their financial agencies.

Some mortgage lenders have already sold part of their portfolios, and the Canada Mortgage and Housing Corporation has frequently made similar sales. This practice can be adopted by other agencies as well.

Objectives

Finally, control over objectives is almost nonexistent. Not only are the objectives vague and sometimes beyond the reach of the agency, but their merits are rarely questioned. When they are, the re-evaluation is generally done internally. According to our survey, the goals of eight lending agencies have never been reviewed, and those of 10 others have only been superficially examined. Some agencies, however, particularly those of the federal government (the Farm Credit Corporation, the Federal Business Development Bank, and the Canada Mortgage and Housing Corporation, for example), have had their objectives more thoroughly reviewed. The CMHC actually withdrew from some lending activities following such a review.

The Review of Agencies and Their Objectives

The degree of control thus varies depending on whether it is exercised (in descending order of strictness) at the budgetary, procedural, or objective levels – an arrangement that is not necessarily optimal. Indeed, to achieve economic efficiency, it is important to define the objectives so that they correspond to the current needs and that they can be achieved through financial instruments. It is just as important to ensure that an agency uses procedures that will enable it to achieve its goals without there resulting undue government interference.

When government establishes a new financing agency, there is every reason to believe that the objectives assigned to it correspond to actual concerns, that they can be achieved through financial instruments, and that they can be attained by using the procedures suggested to the agency by government. As we have seen most agencies have been in existence for many years. Government assistance to business and housing, for example, goes as far back as the turn of the century. The Canadian Farm Loan Board was established in 1927; the Central (now, Canada) Mortgage and Housing Corporation, in 1945. The agencies' goals and procedures should therefore be subject to a review process to ensure that they remain valid.

There are many procedures available for establishing periodic reviews of government loan and guarantee agencies. Sunset clauses limiting the life of an agency or Crown corporation could be used to this effect. They would oblige government to re-examine an agency's objectives and the amount of resources allocated for achieving them. The disadvantage of this procedure is the increased uncertainty that it imposes on a financial institution and its prospective clients. In place of a sunset clause, though, the enabling legislation could include a clause requiring a periodic review. Regardless of the procedure chosen, and in view of the importance of subjecting agencies to periodic review,

28 We recommend that the objectives and operations of public financing agencies be reviewed every five years.

Annual Reports

Up to this point, we have not considered an important instrument of accountability and subsequent control for members of Parliament and of the provincial legislatures, as well as for the general public. This is the report on its activities that each agency must submit every year. These annual reports can provide a potentially useful source of information about the budgets, the stated goals, and the means adopted to achieve those objectives.

The quantity and quality of information contained in these annual reports vary greatly from one agency to another. Table 7-3 lists what, in our judgment, constitutes major shortcomings in the 34 annual reports studied here. They can be divided into two categories: those dealing with general information and those dealing with financial information.

Table 7-3

Major Deficiencies of Annual Reports and Financial Statements of Selected Government Agencies, by Sector, Canada, 1979

	Business[1]	Housing	Agriculture	Total
Number of reports examined	15	11	8	34
Incomplete information on:				
Objectives	3	8	4	15
Clientele	–	6	3	9
Incomplete financial statements	3	2	4	9
Generally accepted accounting principles not applied to provisions for bad debts or for future claims[2]	2	7	2	11
Borrowing or administrative costs not fully accounted	2	3	5	10
Result of operations excluding government contributions not calculated	5	6	2	13
Cost of each program not calculated	13	9	7	29

1 Including exports.
2 Seventeen agencies assign real estate purchases to operations of the fiscal year. However, the amounts involved are not large.
SOURCE Various annual reports.

General information primarily covers the statement of an agency's objectives, a description of its programs, and an analysis of its clientele. Of the 34 agencies studied, which account for over 90 per cent of total assistance outstanding offered by public financing agencies, 15 fail to state the goals that they have been assigned or have adopted for themselves, while nine do not disclose the nature of the clientele that they are serving. It should be noted, however, that agencies specializing in business finance generally provide the taxpayer with general information of better quality than those dealing with the farm and housing sectors. Finally, most agencies (the Federal Business Development Bank is an exception) do not report the costs of each of their subprograms. Such information is essential to assess the social profitability of each subprogram and of general government involvement as a financial intermediary. In general, agencies provide information on the growth of their portfolios rather than on the achievement of their objectives, whether they be the correction of market imperfections or the promotion of economic and social development. (The Farm Credit Corporation is one of the few that stress objective achievement in their report.)

Nine Crown corporations and boards do not publish the normal set of standard financial statements, namely a balance sheet, a statement of income and expenditure, a statement of changes in financial position, and a statement of undistributed profits. For example, the Newfoundland Farm Loan Board and the Nova Scotia Resources Development Board do not present a statement of income and expenditure. Others, such as the Nova Scotia Farm Loan Board, sometimes bury information on changes in their financial position in the notes to the financial statements. The disclosure of information on the provisions for loan losses often leaves much to be desired. For example, the Mortgage Insurance Fund of the Canada Mortgage and Housing Corporation does not make a provision for future claims, but simply charges claims paid in the current fiscal year to its reserve fund.[8]

Other financing agencies, such as the Manitoba Housing and Renewal Corportion or the Export Development Corporation, explicitly or implicitly add a general reserve to their provisions for loan losses. It would be more in accordance with generally accepted accounting principles[9] if the latter were used only for the assessment of the loan portfolio and if reserves, in the proper sense of the term, were established out of reinvested profits and presented as such in the financial statements. In this way, the reader could more accurately analyse the provisions for loan losses.

Ten agencies (for example, the Société d'habitation du Québec and the New Brunswick Farm Adjustment Board) do not record all the costs of borrowing or impute part of their administrative costs to the government department to which they report. Finally, it is common practice to consider government grants as income, on the same basis as interest payments received from clients and other business income. This is the case, for instance, of the Newfoundland and Labrador Development Corporation and the New Brunswick Housing Corporation. But supplementary

government contributions are different from other income. In standard accounting procedure, the surplus of income over expenditures is calculated (if there is one) before taking into account the contributions by the government shareholder. Adjusting the financial statements along these lines considerably changes the rates of return relative to those reported by some agencies (Table 7-4).

As an illustration, we have recast the statement of income and expenditure of a public agency (Table 7-5). According to the accounting method employed in its 1979 annual report, this agency's operations resulted that year in a surplus of almost $332,000. But if the contributions from the province are not counted as income on the same basis as interest and rent, and if a cost for the money borrowed from the province and the federal government is imputed, then the agency can be shown to have cost taxpayers about $20 million. This example illustrates the importance of the choice of the method for presenting the income and expenditure statement, and can be repeated for many other agencies.

As observed by a research group of the Canadian Institute of Chartered Accountants (CICA), public-sector managers do not yet have, contrary to private-sector managers, a set of established standards to guide them in drawing up financial statements.[10] But should the government itself not respect the standards that it imposes on the private sector through regulations, such as those accompanying the Canada Business Corporations Act? For all practical purposes, adoption of the accounting standards set by CICA is compulsory under this Act,[11] and most of its directives can be applied to the government enterprises studied in this report. In addition, CICA recommended in 1978 that chartered banks' provisions for loan losses should be based on an evaluation of the loan portfolio, rather than on a five-year average of losses, and that the reserves should be included in shareholders' equity.[12] The Institute also recommended that the chartered banks highlight the increased importance that a specific sector might have taken in their loan portfolios and that they present an analysis of the term to maturity of their loans and deposits. These recommendations could apply equally well to public lending agencies. Whichever solution is adopted, the movement towards the standardization of accounting practices in the public sector should be accelerated.

The shortcomings found in the annual reports of public financing agencies concerning the presentation of their objectives, programs, and the characteristics of their clientele can be corrected by the governments and managers involved. In order to remedy similar types of problems, the Privy Council, in its Blue Book[13] and in its submission to the Royal Commission on Financial Management and Accountability, specifically proposed the establishment of a strategic plan by Crown corporations. (Most federal government departments are already required to submit such plans.) Although this proposal was developed in the context of the federal government's relationship with its agencies, it could apply in each of the provinces as well. The Privy Council proposed that a certain number of agencies should be required

Table 7-4

Rate of Return to Assets, Selected Government Agencies, Canada, 1978 and 1979

	1978		1979	
	As published	As recast (excluding government grants)	As published	As recast (excluding government grants)
	(Per cent)			
Federal Business Development Bank[1]	0.1	Correctly reported	--	--
Newfoundland and Labrador Development Corporation	-16.5	Correctly reported	-7.0	Correctly reported
Industrial Enterprises Incorporated (Prince Edward Island)	0.5	-6.8	-23.0	-30.9
Industrial Estates Ltd. (Nova Scotia)	-2.1	Correctly reported	-2.3	Correctly reported
Société de développement industriel du Québec	1.4	-19.5	1.5	-16.4
Ontario Development Corporation	..	..	4.0	-6.0
Communities Economic Development Corporation (Manitoba)	-13.5	Correctly reported	-13.9	Correctly reported

1 The FBDB does not receive a government grant for its financial services but only for the deficit incurred in its management services, which are not taken into account in this calculation.

SOURCE Estimates by the Economic Council of Canada based on the annual reports of the various institutions.

Table 7-5

Statement of Revenue and Expenditure of a Public Lending Agency, as Published and Recast, 1979

	As published	As recast[1]
	(Dollars)	
Revenue		
Contributions by province	9,663,710	-
Administration fees	896,197	896,197
Interest earned	1,865,318	1,865,318
Washers and dryers	36,943	36,943
Miscellaneous revenue	12,958	12,958
Subtotal	12,475,126	2,811,416
Less: Amounts paid to province	2,463,036	-
Total	10,012,090	2,811,416
Expenditure		
Administration	2,577,823	2,577,823
Contributions, grants, and subsidies	2,651,274	2,651,274
Proportion of operating losses of housing projects	4,451,160	4,451,160
Subtotal	9,680,257	9,680,257
Operating loss	-	(6,868,841)
Interest on investment by province and CMHC[2]	-	13,009,266
Excess of revenue and contributions over expenditure for the year	331,833	(19,878,107)

1 The recast financial statement eliminates contributions from and repayment to the province and includes imputed interest as described in note 2. Net contributions by the province would be carried over directly to "operating surplus (deficit) due to the province," a balance sheet account.

2 Estimate based on the assumption that capital invested in, loaned and advanced to, the agency has been borrowed at a rate of 9.95 per cent from the province and 8.35 per cent from CMHC.

SOURCE Annual report of a lending agency and estimates by the Economic Council of Canada.

to prepare a business plan, covering three to five years, which they would apply in stages. The plan would include a statement of the agency's objectives and strategies over the period covered, specify the means of carrying out its commitments, and stipulate the amount of the funds required to achieve the objectives. The plan, updated annually, would also include data on the agency's performance in previous years and on its successes or failures.

The Lambert Commission[14] has adopted the concept of a business plan put forward in the Blue Book. In its opinion, this should make it possible to define with greater precision an agency's mandate. Although details may vary from one agency to another, the plan should contain statements on several basic elements: 1) the financial position, showing the results of previous years and describing its operating environment and its future outlook; 2) a statement of the corporation's specific and general objectives; 3) strategies; 4) policies for implementing strategies; 5) a funding plan. In order to improve control over the operations and costs of public loan and guarantee agencies,

29 We recommend that the proposals put forward in the Privy Council's Blue Book on Crown Corporations and in the Report of the Royal Commission on Financial Management and Accountability be not only implemented by the federal government but also adopted by provincial governments.

30 We recommend further that the annual reports of all public loan and guarantee agencies include a statement on each subprogram that they administer, giving the rationale and cost of each program and, to the degree appropriate, the characteristics of the beneficiaries.

The second type of shortcomings found in the annual reports of public financing agencies are of an accounting nature, which can in turn be subdivided into two categories. The first involves the presentation of reserves, the accounting method for bad-loan provisions, and the evaluation of the cost of each program. These issues have already been resolved by the accounting profession, and the solution has been imposed on the private sector by government. The second deals with issues on which the members of the accounting profession have not yet reached a consensus. These relate chiefly to transactions between governments and their agencies, such as the imputation of the costs of funding the programs and the accounting for government grants and supplementary outlays. These deficiencies should receive the attention of governments and accounting experts alike. Therefore,

31 We recommend that the financial statements of public loan and guarantee agencies follow the generally accepted accounting rules that are in effect in the private sector, where applicable, and that standards for the disclosure and presentation of financial statements specifically designed for public agencies be put into place, where necessary, as soon as possible.

The implementation of this recommendation would mean, for example, that public agencies would be subjected to the same accounting rules as those laid down for private firms under the Canada Business Corporations Act. Since our review of 34 annual reports was made, we have noted that several agencies and boards have greatly improved the reporting on their activities.

Conclusion

The lack of reliable benchmarks makes it very difficult to determine the technical efficiency of financing agencies. Thus, the relatively higher administrative costs of government agencies can, to a certain extent, be attributed to their specific objectives. It has been established, however, that the lack of financial guidelines on how government objectives are to be achieved complicates the task of public-program managers. This may impair government control over its agencies, or it may reflect the inadequacy of controls. Indeed, when government control mechanisms are analysed from three different points of view – control over the agency's budget, managerial procedures, and objectives – it can be seen that, although budget control is fairly tight, control over managerial procedures and objectives is not.

The technical and economic efficiency of public financing agencies can be improved by imputing to them an opportunity cost of the funds that they use, by setting in advance the amount of subsidies that they may provide, by subjecting them to periodic review, and by conducting regular sales of some of their assets. Their reports on their activities could also be improved. Increasing the technical efficiency of agencies is the first step to increasing their economic efficiency.

8 An Overview

At the beginning of the present decade, Ottawa and the provinces had assets of $19 billion in loans to the private sector, with contingent liabilities of $29 billion in loan guarantees. In the preceding chapters we have assessed, for each of four economic sectors examined separately, the efficiency of this form of government intervention in relation to the objectives pursued.

It is appropriate to point out that we live in a complex world in which the different sectors of an economy are strongly interdependent. Because Canada's financial markets are highly developed and dynamic, government financial assistance to one sector always has repercussions on the others. At the same time, persons and firms engaged in a host of activities turn to various markets to finance their production or consumption. For example, a residential mortgage may be used to purchase a house and to finance the owner's business. Thus changes in the availability and cost of credit in the mortgage market have an effect not only on the financing and construction of housing, but also on the financing and conduct of the business sector. Moreover, the use of public funds to finance government loan activities affects all financial markets as well as economic activity in general. In order to take account of all these interrelationships, it is necessary to analyse the effect of all public loan and loan guarantee programs on the allocation of financial and real resources and on income redistribution, as well as their interaction with government stabilization programs.

This analysis confirms the results described in the sectoral chapters. When government finances economic activities in an attempt to remedy financial-market shortcomings, an improvement in resource allocation generally results. On the other hand, when government intervenes in the absence of such malfunctions in the pursuit of more-general objectives, it meets with serious difficulty in achieving the latter, and the costs of such actions can be high.

Public Loan and Guarantee Programs

With $46 billion in loans and loan guarantees outstanding as of March 31, 1980, government participates significantly in the financing of the four sectors examined in our report. This assistance has not been distributed equally among the four sectors. Housing has benefited the most, receiving 60 per cent of public loans, investments, and guarantees outstanding. The business sector comes second, with 15 per cent, followed by the agriculture and export sectors, with 10 per cent each.[1]

Government financial assistance to the housing sector represents only 28 per cent of the total institutional financing of this sector, however. In fact, this contribution, compared with that of other participants, is smaller than the relative importance of government financing in the export or agriculture sectors. While public export credit and credit insurance represent only 10 per cent of total government assistance to the four sectors, government long-term finance plays a greater role in exports than do private institutions, which have contributed little – either by choice or because of the government presence itself. Government also plays an important role in financing agriculture, with a contribution in direct loans and loan guarantees accounting for about 40 per cent of financing from all sources. In the area of business finance, governments intervene much less than private lenders do. Public assistance represents only 4.3 per cent of business institutional financing.

Loans are the instrument most often used by governments in financing the business and agriculture sectors. In recent years, however, guarantees have taken on greater importance in farm finance. In the export sector, government assistance is divided almost equally between loans and credit insurance. In the case of housing, loan guarantees have been prominent.

Through their presence in financial markets, governments pursue two broad objectives associated with their concerns for economic growth and development, for equity, and for social justice.

Government objectives directly related to the operation of financial markets were aimed in the past – and, to a lesser degree, still are today – at filling gaps in the supply of mortgage credit and of term credit to Canadian businesses and at compensating for the failure of private institutions to provide long-term financing to the agriculture and export sectors. When government presence in financial markets was aimed at improving the general performance of the economy, the objectives that were pursued comprised job creation and the overall expansion of certain industries and regions (business and export sectors), the improvement in the quality of life by providing an adequate housing stock (housing sector), by slowing the rural exodus or by assuring Canadians a steady supply of farm products at moderate prices (agriculture). They have also included income redistribution (housing, agriculture) or the reduction of cyclical fluctuations in certain sectors or in the whole economy (housing, agriculture, and exports).

Government Assistance and Resource Allocation

Market Imperfections

When government intervenes in financial markets to fill a void left by private institutions in the areas of credit or credit insurance or to compensate for the absence of an adequate financial instrument, it contributes directly to a better allocation of financial resources and thereby to economic growth and development, as projects with a favourable risk-return combination receive financing which they had previously been denied.

Thus, in the past, when Canada's financial markets were underdeveloped, the guarantees extended to the railway companies, by establishing Canadian credit abroad, contributed to this country's growth and development. Loans to farmers in the 1940s, 1950s, and 1960s contributed to the maintenance of an active agricultural sector. Similarly, government, especially through NHA insurance, encouraged the introduction and development of mortgage credit instruments adapted to the needs of homeowners, thus making it easier for a large number of Canadians to own their own homes. Term loans offered by the Industrial Development Bank and other public lenders during the 1950s and 1960s allowed firms, especially small and medium-sized ones, to finance their capital investments. In this way, they contributed to the expansion of Canadian business firms.

Government Intervention in the Absence of Financial Market Imperfections

Government can finance economic activities in two different ways. On the one hand, it can supply loans, investments, or loan guarantees at conditions that are determined by the debtor's risk-return combination, and it can finance these activities by resorting directly to financial markets. This type of assistance is, in many respects, similar to that provided by private intermediaries. On the other hand, government can extend loans or guarantees on terms that are more favourable than those offered by private financial institutions – that is, employ instruments that incorporate a subsidy.

When government intervenes to fill a void left by private institutions, it should do so at terms similar to those that they would offer if there were no market imperfections. When government wishes to modify the behaviour of the participants in the economy, however, a subsidy is called for. One would not expect government to intervene with unsubsidized loans and guarantees in the absence of market imperfections. Nevertheless, such an intervention might occur if government wrongly assumed the existence of market imperfections.

Government Intervention without Subsidization

Government intervention through unsubsidized financial instruments is likely to affect the allocation of financial resources, since the securities traded on Canada's financial markets cannot be considered as perfect substitutes.[2] These effects are not confined to the markets where the transactions take place. There may be a spillover on other financial markets that affects borrowing costs of both the public agency's clientele and other borrowers. This secondary effect can be important, because the clients of public agencies do not seek funds in only one market or through a single financial instrument, and their financing costs depend on the costs of all their sources of finance.

Consider, for example, public direct-loan programs aimed at assisting small firms. Even if no subsidy is involved, the combination of an increased supply of government loans to businesses and a greater government demand for funds in the bond market creates downward pressures on business loan interest rates and upward pressures on bond yields. The resulting changes in the volume of transactions and in interest rates in those two markets also affect other financial markets, such as that for mortgages. However, both small firms and large corporations also tap the mortgage market for a significant part of their financial requirements, in the form of either

commercial mortgages or loans secured by the home of a business owner. The impact of government lending and borrowing activity on the mortgage market is unclear, as it depends on the adjustments that are made in the portfolios of individuals, businesses, and financial institutions. After these adjustments have been made, mortgage rates may turn out to be higher or lower than, or the same as, before government involvement. Higher rates mean that government participation in the business loan market has adverse effects on the firms that borrow in the mortgage market, including those which receive government assistance. For the latter, the net gain from government participation is rather unclear. On the other hand, if mortgage rates are lower, then not only small and medium-sized firms – the designated recipients of government assistance – but also homeowners, benefit from the government action.[3]

An example of "third market" effects is provided by the analysis of the effects of government involvement in the mortgage market (see Chapter 5). As illustrated in Table 5-7, government intervention in this market financed by bond issues directly reduces NHA mortgage rates and increases Government of Canada long-term bond yields. It also pushes up all other interest rates, including conventional mortgage rates. As a result, mortgage loan approvals by private lenders are reduced by an amount almost equal to that of the NHA loans. The rise in interest rates in other markets results in an indirect increase in the cost of the equity of homeowners and of the owners of rental housing, thus reducing the benefits from lower NHA mortgage rates.

The "third market" may also be located outside the region where government has intervened. For example, when a provincial government participates extensively in the financing of economic activity in its province, the effects of this involvement may be felt in financial markets in other provinces. If the current interest rates in these third markets increase, then part of the cost of the programs is financed by nonresidents. Conversely, if rates fall, nonresidents benefit in part from the programs.

In conclusion, when financial markets are operating normally and government intervenes through unsubsidized loans or loan guarantees, its effect on financial resource allocation cannot be determined *a priori* and depends on the adjustments made in the portfolios of individuals, businesses, and financial institutions; these adjustments, in turn, depend on numerous factors over most of which government has no control.

Intermediation through Subsidized Financing

In fiscal year 1978/79, the federal and provincial governments subsidized their loans and guarantees to the tune of almost $1 billion. And this figure does not include interest rebates granted by many programs during that year. For example, the Office du crédit agricole provided about $25 million in interest subsidies to its clients, and the Société de développement industriel granted $20 million. In the recent period of high interest rates and economic slowdown, many governments have introduced measures designed to reduce interest rates in order to assist the groups that were affected most unfavourably. For instance the federal government and the government of Alberta offered grants or subsidized loans to farmers, homeowners, and small businesses; Ontario and Quebec established programs for first-time homeowners. One goal common to all of these programs is to make more financial resources available to borrowers.

In many cases, the amount of the subsidy or of the subsidized loan is limited. For example, the direct federal grant to eligible homeowners has a ceiling of $3,000; loans without interest offered by Ontario to first-time home buyers are limited to $5,000; the maximum amount of a loan by the Saskatchewan Farm Start Corporation to an individual farm operation is $150,000. When the amount of the subsidized loan falls far short of the requirements of the recipients, the latter must turn to other sources and obtain an additional loan at market rates. These rates determine whether or not businessmen or farm operators will undertake their investment projects. That decision is then based on the cost of the supplementary borrowing – the marginal cost of the funds needed. In such cases, the subsidy does not reduce the marginal cost of the funds to the borrowers, but their average cost. This reduction constitutes a windfall gain for borrowers, and has no significant effect on their choices and, therefore, on the allocation of financial resources.

A subsidy has an effect on the allocation of financial resources when the subsidized loan is not rationed – i.e., when the borrower can satisfy all his financial needs at a reduced rate. This occurs, for example, when the financial requirements of a farm operator in Saskatchewan do not exceed $150,000 or when a first-time home buyer in British Columbia does not need a loan exceeding $60,000. The effects of the subsidy may not, however, correspond to government objectives. Just as in the case of unsubsidized financing, "third market" effects will occur, leading to changes in financial-resource allocation other than those sought by government. On the other

hand, in their attempts to redirect available funds to the subsidized markets to satisfy demand, lenders exert upward pressures on all interest rates, including those which are subsidized.

Simulations with the CANDIDE 2.0 model show that NHA loan subsidies financed by new government bond issues reduce the NHA rate by a lesser amount than the subsidy and increase the yield of trust company guaranteed investment certificates (GICS) together with other interest rates (Table 5-7). These rates must increase in order to attract the funds necessary to meet the higher demand for mortgage loans. The fact that the borrower did not obtain the full amount of the subsidy is caused by the method of delivery. Indeed, in this simulated example, the subsidy is a fixed reduction (2 percentage points) of the rate paid. Similar effects obtain if the subsidy is a fixed amount (for example, $3,000) or is equal to a percentage of the interest rate paid. If the subsidy is set so as to prevent the borrower from paying more than a pre-determined rate (for example, 13.5 per cent in the Quebec program for first-time home buyers) or is incorporated in a fixed interest rate public loan (6 per cent for loans to young farmers in Alberta), then the adjustments that take place in the financial markets do not affect the borrower's position, but they increase the cost of the subsidy to the government.

Instead of acting as a mere intermediary between the sources and uses of the available savings, government can, through its activities, increase the volume of savings. Our simulation results show that interest rates fall if CMHC mortgage subsidies are financed through an increase in personal income tax, with the exception of the GIC rate, which rises slightly in order to attract additional mortgage funds. In this case, personal and business savings are transferred to government. As part of this transfer results from a tax-induced reduction in private consumption, there is an increase in the total volume of saving (public and private) channeled through the financial markets; hence the drop in some interest rates.

At the microeconomic level – i.e., from the perspective of the recipient of assistance rather than that of the market – a subsidized loan has two opposite effects. While it reduces the burden of interest payments, it also increases the amount of the debt as a proportion of the borrower's equity and can therefore increase his financial risk,[4] whatever the nature of the assets acquired. The financing costs are ultimately reduced, but by a lesser amount than the subsidy, because of their adjustment to a greater risk associated with a higher debt-to-asset ratio. A subsidy incorporated in a government contribution to the recipient's equity would not have these effects. Apart from reducing the cost of equity finance, the subsidy induces a reduction in the debt/equity ratio and in financial risk; the total financing cost for the firm or the individual is then also reduced.

It can be concluded from the foregoing that, once the indirect effects of interest subsidies on the subsidized market and other markets are taken into account, their impact on financial-resource allocation is uncertain whether the subsidies are in the form of an interest rebate on private sector loans or are incorporated in public loans. Interest subsidies cannot bring about all the changes in costs and in the amounts transacted that are desired by government.

In trying to influence the allocation and cost of financial resources when there are no market imperfections, government, as already mentioned, pursues several objectives. These may be quantitative objectives of growth and real-resource reallocation. Government also strives to promote social progress by eliminating disparities that are not related to productivity differences, by reducing income differentials, and by improving the quality of life for all Canadians. Attempts to make it easier for every Canadian to have access to adequate housing and a stable supply of food products at reasonable prices, and to slow down the rural exodus are other illustrations. Government also strives to reduce economic fluctuations so that they will not hinder the achievement of its objectives of growth and social progress. Each subsidized loan has been aimed at fulfilling several of these objectives simultaneously, and it is impossible to distinguish the amount that is devoted to economic stabilization from the amount earmarked for income redistribution and from the amount designed to alter the industrial structure.

In its quest for the achievement of the "quantitative" objectives, government attempts to modify the allocation of real resources. Here again, it is difficult to determine *a priori* what the incidence of government action will be. Indeed, the subsidy has an effect – if at all – on the financial cost of a project but not on the opportunity cost of the capital invested. The opportunity cost is the rate of return to the best among all the alternative uses of capital. The cost of financing does not directly affect the return to capital. For a project to go ahead – whether it involves the purchase of machinery or equipment, the expansion of farm operations, or the purchase of a house – the financing cost must not exceed the return to the capital invested. If the market interest rate is about 18 per cent, as it was in the middle of 1982, it is because the nominal return to capital is also at that level. If the return to capital were lower, there would be an excess supply of funds, with consequent downward pressures on interest rates. If government

were to subsidize interest rates in order to reduce the financing cost to, say, 12 per cent, projects with a return of 12 per cent would not be undertaken as long as there were possibilities of obtaining a higher return to capital. And if government wanted a project with a 12 per cent private return to be undertaken – because of anticipated social benefits – it would have, in addition to offering credit at 12 per cent, to attach to the funds or the subsidy severe constraints as to the specific use to be made of them.

Government might also find it difficult to establish whether or not the subsidized investment would have been undertaken without its assistance. In Chapters 3 and 6, we mentioned that many government-financed projects would probably have been undertaken even without public assistance. Moreover, government cannot influence the recipient's use of the equity or funds from other sources that are freed by public financing. Our simulations have shown that one effect of CMHC loans was to redirect private funds from single detached housing – the assumed purpose of these loans – towards other uses.

Simulations conducted with a small microeconomic model show that the subsidy does not have a large influence on the allocation of real resources comparatively to that of other instruments – taxation for instance – and that this impact is not limited to the sector in which the intervention took place but is also felt in the other sectors of economic activity.[5] For example, subsidized loans to farmers exert downward pressures on manufacturing output and on the construction of owner-occupied dwellings. Moreover, subsidies generally have a negative effect on the welfare of Canadians as a whole, as measured by the quantity of consumer and investment goods available in the country. Subsidies to the housing sector are an exception. Their positive contribution to the quantitative welfare of society is linked to the heavy burden of property taxes imposed on that sector. In an environment where all activities are taxed, but at varying degrees, the expansion of a heavily taxed sector is more beneficial socially than that of a lightly taxed sector. Indeed, the prices paid by consumers for goods or services offered by the heavily taxed sector exceed their production cost by the amount of the tax. That difference leads to a consumption pattern that is less than optimal from a social point of view. On the other hand, the expansion of a sector in which the value of the goods to the consumer is higher than their production cost contributes to increasing the welfare of society, expressed in terms of the quantity of goods and services produced and consumed.

As the effect of subsidized loans and guarantees on employment, production and other quantitative variables is rather small, alternative instruments might be considered to secure greater quantitative gains. For instance, production subsidies could be substituted for subsidized business loans, or shelter allowances for subsidized mortgages. Simulation results indicate that total welfare, as measured by quantitative indices, would increase if indirect subsidies were replaced by production subsidies in all four sectors, without increasing public outlays and without modifying the level of assistance provided each sector.

Quantitative models are not always appropriate to an evaluation of government activities aimed at promoting social progress. We have seen in the sectoral chapters, however, that in the absence of market imperfections the use of financial instruments has generally not been successful in achieving these objectives. Improvement of the housing stock or affordability of housing for low-wage earners are objectives that could better be achieved by shelter allowances. The viability of medium-sized farms could be achieved not only through farm loans granted at favourable conditions, but also by supplying technical assistance, by offering insurance against natural disasters, and by improving the programs for marketing agricultural products.

The quantitative simulations discussed above show, however, that subsidized loans aimed at achieving social goals have an impact on the quantitative aspect of economic activity that is not limited to the sector in which intervention has occurred. A reallocation of resources that is not desired or a loss of growth is then the "price" of progress that must be considered before subsidized financial instruments are chosen as the means of implementing government policies.

Government Loans and Loan Guarantees and Stabilization Policies

Whether or not subsidized loan and loan guarantee programs are aimed at economic stabilization, they have an impact on government stabilization efforts because of their design and their mode of operation.[6] In pursuing its stabilization objectives, government can generally turn to monetary policy and to fiscal measures. As a rule, these two policy instruments are used simultaneously, in either a complementary fashion or in opposition. For the purpose of our study, we will consider the effect of subsidized loans and loan guarantees on each of these stabilization instruments taken separately.

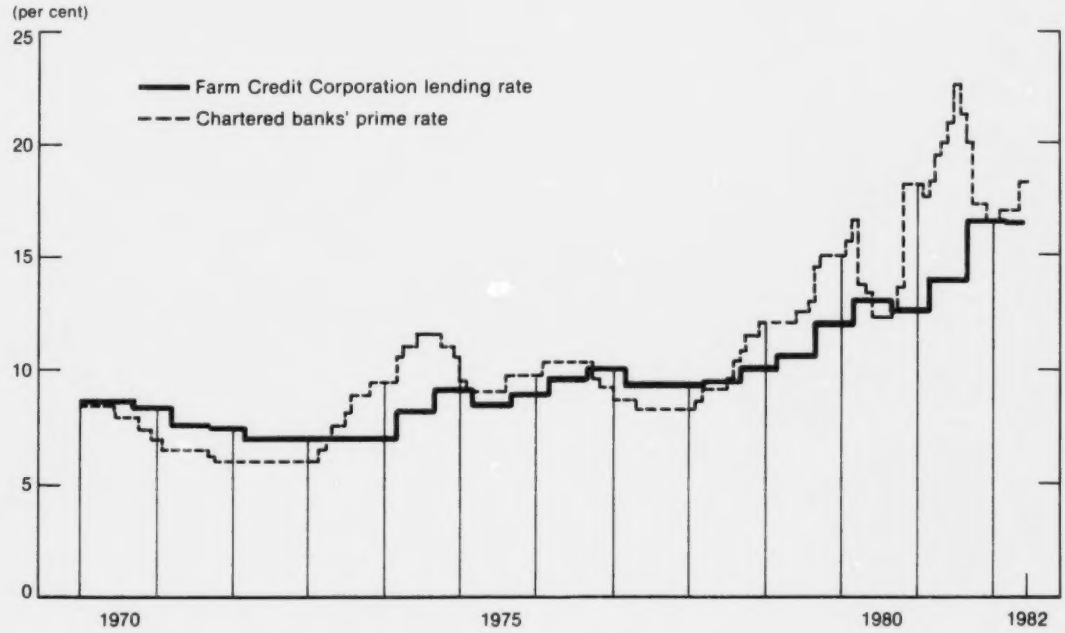
Monetary Policy

In the first case, we consider stabilization policies applied through a change in interest rates, assuming no change in fiscal policy. In this case the interaction between government stabilization efforts and subsidized loan and loan guarantee programs is more visible. When market interest rates are increasing, the difference between the cost of financing at the market rate and the subsidized cost often, if not always, widens, thereby weakening the restraining effect of high interest rates. On the other hand, when market rates are decreasing, the gap between the costs of subsidized and unsubsidized borrowing narrows, thus probably weakening the expansionary effect of the lower rates. Such variations in the difference between the cost of financing and the market rate occur when the rates charged by public loan agencies are not affected by market fluctuations. And, even when the public agencies periodically adjust their lending rates, the latter always lag behind the fluctuations of the market rates, thus widening or narrowing the gap between the two.

A comparison between the Farm Credit Corporation lending rate and the chartered banks' prime business loan rate illustrates this case (Chart 8-1). Whenever Canadian interest rates rise (between January 1973 and June 1974, between June 1978 and the end of 1979, and from June 1980 on), the gap between bank rates and FCC rates widens. Moreover, the absolute gap is larger than that shown in the chart, since banks apply to farmers rates that exceed the prime rate by 0.5 to 2 percentage points. The dampening effect of subsidies on government stabilization efforts will depend, however, on the relative importance of the subsidized activities, on the degree of subsidization, and on the reaction of those who are subsidized – firms or individuals – to variations in interest rates.

Chart 8-1

Monthly Evolution of Chartered Banks' Prime Business Loan Rate and the Farm Credit Corporation's Lending Rate, Canada, 1970-82



SOURCE Farm Credit Corporation, Federal Farm Credit Statistics.

Fiscal Policy

Government stabilization policies can also be implemented through fiscal measures, such as an increase or decrease in government expenditures or taxes. Only changes in spending will be considered here. An expansionary policy is implemented through an increase – and a restraint policy through a reduction – in spending levels. A study conducted for the Council shows that, in the short run, a financial subsidy increases the effectiveness of stabilization measures carried out through changes in government spending.[7]

Higher government spending results in an increase in economic activity, which in turn leads to a greater demand for funds by individuals and firms for transaction or investment purposes. Assuming no change in monetary policy, this increased demand for funds results in a small rise in interest rates that will, to some extent, dampen the initial impact of the increase in expenditure. The provision of a financial subsidy reduces this secondary dampening effect. Thus, when the full cost of financing is subsidized, the beneficiaries of government assistance are not affected at all by the rise in interest rates resulting from the increase in government spending. But even when the subsidy falls far short of the interest paid by the recipient, it still reduces the dampening effect of the induced increased in interest rates. For instance, with a subsidy rate of 20 per cent, the borrower is only affected by 80 per cent of the effects of the induced rise in interest rates. By sheltering some borrowers from the negative effect of rising interest rates, the subsidies magnify the expansionary impact of the increase in government spending. While the subsidy also tends to increase the government deficit, which in turn exerts upward pressures on interest rates, this secondary effect is not usually felt in the short-term.

In the case of a restrictive stabilization policy, the reduction in government expenditure tends to dampen the level of activity and, consequently, the demand for funds. This results in downward pressures on interest rates but, here again, the subsidized sector does not feel the full effect of this induced decline. Thus the restrictive character of the stabilization policy is strenghtened.

The same factors are at play in the long term, but a new element emerges here – i.e., the impact of financing the deficit that results from the subsidy. This induced effect weakens the effectiveness of the stabilization measures. In certain circumstances, particularly when interest rates are very high, the existence of a subsidy could even reverse the direction of the effect of stabilization measures: instead of stimulating economic activity, an increase in spending could have a restrictive impact.

In summary, financial subsidies generally reinforce the short-term impact of stabilization policies conducted exclusively through government spending, but they weaken this impact when these policies are carried out only through variations in interest rates. This is not to say that one approach is necessarily better than the other. The choice, here, depends on the relative influence and effectiveness of each instrument after all factors, and not only the subsidy, are taken into consideration. In the long run, the existence of financial subsidies may weaken the effectiveness of stabilization policies, and in particular circumstances, would even reverse its direction.

The Achievement of Government Objectives with Financial Instruments

Growth and economic and social development are fundamental goals; to a large extent, they are the reason for the very existence of government. To attain these objectives, the different levels of government have at their disposal a wide variety of instruments, among which the most appropriate must be chosen.

The use of financial instruments contributes to the achievement of these goals when there is a credit gap or when there is no financial instrument adapted to the needs of borrowers. In the absence of such malfunctions, however, government policies implemented through loans and guarantees in the pursuit of the broader social and economic objectives have only had mixed success.

Most government loan and loan guarantee programs have been in existence for many years. The time has now come for governments to re-assess that form of intervention in order to adapt it to the circumstances and needs of the 1980s. Credit gaps are far less generalized than in the past, and government action aimed at alleviating them should be directed to the specific areas where there are strong presumptions as to their existence.

On the other hand, there remain situations in which financial instruments are not exactly adapted to the needs of borrowers. In such cases, government can play a role in the development of new instruments, by promoting innovation in the financial markets, just as it does in other sectors of economic activity. In pursuing objectives that lie beyond the scope of

financial markets when no malfunction exists, government should question whether financial instruments are the most appropriate means. They may be appropriate, but this conclusion cannot be reached *a priori*. Finally, it is important that, whatever the objectives pursued, governments and their agencies try to operate in the most technically-efficient way possible and that society through its governments maintain a strict control over the agencies that are charged with improving the welfare of all Canadians.

It is impossible to predict whether such a reassessment will lead to greater or lesser government participation in the financing of economic activity. Naturally, the scope of government involvement will depend on current needs, on the ongoing operation of financial markets, and on the mandate that society will give to its governments. Whatever that scope, a reassessment in the directions proposed in this report will lead to a more efficient government presence in financial markets.

Recommendations

1 We recommend that the federal and provincial governments modify their policies to facilitate the strengthening of the equity base of Canadian firms, particularly small and medium-sized businesses.

2 We recommend that public loans be extended only in cases where there is a strong presumption of the existence of a lending gap. We further recommend that, in such cases, the loans do not incorporate a subsidy.

3 We recommend that the shareholders of a corporation that registers losses for which tax credits cannot be obtained immediately be allowed to deduct from their personal taxable income the amount paid by them in a subscription for new shares to cover this deficit.

4 We recommend that, when a subsidy is deemed necessary, the business financing agencies of government explore ways other than loans and loan guarantees to convey this subsidy.

5 We recommend that government agencies refrain from subsidizing businesses unless there is a strong presumption that this will have the desired effects. We also recommend that the subsidy be large enough to be effective but small enough not to exceed the estimated difference between the expected social and private benefits.

6 We recommend that the federal and provincial governments ensure that departments and government agencies that provide financial assistance to businesses follow a consistent strategy.

7 We recommend that governments in Canada avoid efforts to outbid each other in endeavouring to attract industries.

8 We recommend that the Export Development Corporation gradually move towards providing export credit reinsurance, leaving the field of insurance proper to the private sector. We further recommend that the Export Development Corporation serve as the insurer of last resort to close any gaps left by the private sector in the supply of export credit insurance.

9 We recommend that the Export Development Corporation continue to provide direct financing for Canadian sales abroad when there is reason to believe that the private sector is unable to provide the required credits. Public financing should be made available only under terms and conditions commensurate with the risks involved and the costs of such assistance – including the opportunity cost of the funds used – except in those cases where it is deemed necessary to take into consideration the export-support programs of other countries.

10 We further recommend that the Export Development Corporation's gradual withdrawal from most direct-lending activities be accompanied by an increased concentration of its efforts in the field of credit insurance and bank guarantees. The Corporation should also stand ready to provide refinancing facilities for private lending institutions engaged in export finance.

11 We recommend that the federal government continue its efforts, at meetings of the Organisation for Economic Co-operation and Development and the General Agreement on Tariffs and Trade, to obtain an international agreement to further limit subsidized export credit. In the absence of such an agreement, we recommend that Canada use subsidized credit only in cases where there is a sufficiently strong presumption that it will facilitate the opening of new markets or that it will increase the market share for Canadian products.

12 We recommend that, in the absence of an international agreement to further limit subsidized export credit, the federal government consider the advisability of matching foreign export-support programs that currently have no equivalent in Canada and of providing assistance to domestic firms which must compete with imports that have benefited from foreign subsidized credits.

13 We recommend that the private sector be encouraged to supply direct export credits to Canadian producers even when a public subsidy is deemed necessary. The federal government, through the Export Development Corporation, should assume the cost difference between the preferential conditions offered and the conditions that would have prevailed had private financing been offered in the absence of public support.

14 We recommend that the Export Development Corporation manage separately those of its activities that are intended to expand markets for Canadian products. We further recommend that provision be made for greater co-ordination between the Export

Development Corporation and the Canadian International Development Agency whenever their activities overlap.

15 We recommend that the Canada Mortgage and Housing Corporation gradually withdraw from the direct insurance area and offer mortgage reinsurance instead. We further recommend that the premiums charged differentiate between classes of risks and that they be established at a level that covers the costs of operation and maintains a sound level of reserves.

16 We recommend that governments encourage the introduction of indexed mortgages for sale to pension funds and registered retirement savings plans and that the Canada Mortgage and Housing Corporation offer, on a temporary basis, direct insurance of such mortgages. We further recommend that governments promote the development of a secondary market for these mortgages.

17 We recommend that governments continue to serve as lenders of last resort for borrowers who cannot otherwise obtain mortgage loans on competitive terms.

18 We recommend that, where it is determined that housing conditions are inadequate and that public assistance is required, grants specifically addressed to the problem be preferred to loan subsidies. Similarly, we recommend that governments avoid using loans or loan insurance programs in their effort to redistribute income.

19 We recommend that, whenever government wishes to stimulate housing construction, appropriate tax incentives or direct government involvement be preferred to public mortgage lending.

20 We recommend that governments encourage the introduction of indexed farm mortgages and their purchase by tax-exempt lenders, such as pension funds and registered retirement savings plans. We further recommend that farmers and former farmers be allowed to establish special funds equivalent to RRSPs to hold the indexed farm mortgages they have acquired.

21 We recommend that, during a transitional period, government insure the principal, the interest, and the contingent interest of indexed mortgages against default of payment on the part of farmers, and that it offer to analyse credit applications by farmers on behalf of private lenders. We further recommend that government encourage the development of a secondary market for indexed farm mortgages.

22 We recommend that, where there is a strong presumption that the farm finance market is not functioning properly, governments offer loans of last resort at terms and conditions commensurate with the risks and costs involved.

23 While we recognize that the development of a healthy and self-sufficient agricultural sector is an important government objective and that assistance should be given to both young and established farmers in order to make their operations viable, we recommend that the use of loans and loan guarantees for these purposes be avoided as much as possible. Instruments such as production subsidies, capital grants, tax incentives, and technical assistance are better suited to meet these objectives.

24 We recommend that, where appropriate, two categories of assistance be established within a public financing agency – one dealing with filling potential credit gaps, the other dealing with broader social objectives. The activities under each category should be governed by different criteria and have separate accounting.

25 We recommend that public financing agency managers be given financial guidelines consistent with the different categories of objectives pursued.

26 We recommend that Members of Parliament and of the provincial legislatures be given the opportunity to debate the amounts of the loans and guarantees to be granted in a given fiscal year by the financing agencies under their respective jurisdictions.

27 We recommend that the federal and provincial governments consider the possibility of regularly selling off part of the loan portfolios of their financial agencies.

28 We recommend that the objectives and operations of public financing agencies be reviewed every five years.

29 We recommend that the proposals put forward in the Privy Council's Blue Book on Crown Corporations and in the Report of the Royal Commission on Financial Management and Accountability be not only implemented by the federal government but also adopted by provincial governments.

30 We recommend further that the annual reports of all public loan and guarantee agencies include a statement on each subprogram that they administer, giving the rationale and cost of each program and, to the degree appropriate, the characteristics of the beneficiaries.

31 We recommend that the financial statements of public loan and guarantee agencies follow the generally accepted accounting rules that are in effect in the private sector, where applicable, and that standards for the disclosure and presentation of financial statements specifically designed for public agencies be put into place, where necessary, as soon as possible.

Appendixes

A Subsidies Incorporated in Government Loans and Guarantees: Concept and Measurement

The Concept of Subsidization

In the minds of the general public, the term "subsidization" is associated with favourable conditions obtained by the recipients of loans or guarantees. This entertains a confusion between the subsidy given by government and the gain obtained by the recipient. The subsidy is measured from the viewpoint of the institution providing a loan or guarantee, while the recipient's gain ought to be measured from his own perspective; the two measures seldom yield the same result. There is a gain to the recipient if the conditions provided by government are more favourable than those that could be obtained from private lending institutions. The recipient's gain is similar to the consumer-surplus concept in microeconomic analysis. There is a subsidy if, through the conditions offered to their clients, private or public financial institutions are unable to recover all of their costs, including the cost of obtaining funds and the administrative costs.

Defined in this way, subsidization is not the exclusive domain of public agencies. A private institution can also subsidize when it offers loan conditions that are more favourable than those that it would normally offer – something it may do to capture a larger share of the market, for example.

The absence of a subsidy would not necessarily mean that the interest charged by an agency is equal to, or greater than, the rate charged by private institutions. The interest rate must reflect the borrowers' characteristics in terms of return, risk, and size, as well as the lending institution's costs, including its operating costs and the cost of funds. These costs vary from one institution to another; those with lower costs can pass this saving on to clients in the form of lower interest rates. The case of public agencies is obvious in this respect, since they may benefit from the borrowing power of the government that owns them. Therefore, a difference in the interest rates charged by various financial institutions is therefore neither a necessary nor a sufficient condition for the existence of a subsidy.

It is also possible that a public agency with the same costs as a private institution and granting loans to clients with comparable characteristics might charge a lower interest rate than the private institution without providing a subsidy, from a financial point of view. The difference between the interest rates may just reflect the private institution's profit.

Furthermore, when private establishments operate in an environment of imperfect competition, the market interest rate is higher than that which would prevail in a context of perfect competition. This higher rate will be accompanied by a welfare loss for society. If public agencies charge a competitive rate and this rate allows them to cover all of their operating costs, there is no subsidy. Instead, a market imperfection which led to unnecessarily high market interest rates is being corrected.

There are three concepts of subsidy incorporated in loans and guarantees, and each gives rise to different measures of the subsidy. First, a subsidy can be measured on the basis of financial costs. In this case, it corresponds to the difference between the current cost to government or its agencies of borrowing the funds required, and the rate charged for a government loan. Second, the subsidy can be computed on the basis of cash cost (or ordinary accounting methods). In this case, the amount of the subsidy is equal to the difference between the income from interest and dividends earned by agencies on their loans and investments, and their total operating costs, including the historical cost of obtaining funds. Finally, the subsidy can be computed on the basis of the social opportunity cost of the funds. This measure takes into consideration such things as the utilization rate of the country's resources, whether capital or labour, and thus the amount of these resources that is diverted to provide government financing.

There is theoretically only one case in which the recipient's gain would equal the subsidy. This situation occurs when, in a perfectly competitive market, private and public institutions are faced with the same cost per dollar loaned (operating costs, borrowing costs, and profit), when this cost is fixed and does not vary with the size of the loan (constant and perfectly elastic marginal costs), and when the public agency charges an interest rate that is inadequate to cover its costs. In general, if private institutions face costs that are greater than those of public agencies, the subsidy is less than the recipient's gain. Conversely, if the costs are for public agencies, the recipient's gain will be smaller than the subsidy.

Researchers at the Economic Council of Canada attempted to measure the recipient's gain. At first glance, the principle appeared simple. After dividing borrowers into risk categories based on their age and size (risk being defined in relation to their probability of bankruptcy), the researchers had to determine what interest rate would have been applied to these borrowers in the absence of government intervention. This method unfortunately did not provide satisfactory results. When the clientele of public and private institutions differ in their characteristics – which occurs in the case of small government agencies lending to businesses that would not exist without this assistance – the subsidy rate can be infinite, at least in theory. Thus the choice is no longer between a loan at market cost and a loan under favourable conditions, but it involves the very existence of the company. For all these reasons, only the results of the calculation of the subsidy are presented here.

Method of Calculation[1]

In the first stage, each agency's financial statements were analyzed to isolate income, administrative costs, and losses solely attributable to loans and guarantees granted to the private sector. Isolating these variables proved difficult in the case of the agencies that administer many other programs, such as the housing agencies. Since the financial statements did not present separate accounts for each program, it was particularly difficult to ascertain correctly the administrative costs and to identify properly the net losses incurred by each program.

The next task was to impute to the agencies the costs of the funds used by them. To this effect, a proportion of the parent government's debt was imputed to each agency. It must be noted that we assumed that the agencies' assets matched their liabilities. If this was not the case and if, for example, government financed its long-term loans through short-term borrowing while interest rates were rising over time, the costs of the government debt would be greater and the amount of the subsidies would be underestimated. The subsidy would be overestimated if assets and liabilities were not matched in an environment of declining interest rates. The difference between income and costs leads to the calculation of the subsidy according to the cash cost (or ordinary accounting) method.

The subsidy may also be measured according to the economic cost – or social opportunity cost – method. This cost is defined as benefits which the community forgoes by investing funds in public agencies rather than in the private sector. The greater the utilization rate of economic resources, the higher the social opportunity cost. The cost was estimated at 14.26 per cent for fiscal 1978/79. This rate is the same for all agencies, regardless of where they operate, their sector of activity, or the average maturity of their loan portfolio.

Briefly, the calculations of the subsidy incorporated in loans involves two measures – one based on the cash cost and the other based on the economic cost. For guarantees, since there is no immediate onus on the part of government except to make up for the programs' operating deficit, a single calculation was made according to the cash cost method. Finally, it should be noted that the subsidy amount estimated, whether by the cash cost method or the social opportunity cost method, represents a maximum subsidy. The calculation assumes that the agencies are operating efficiently. If this had not been the case, part of the subsidy expense would have covered excessive operating costs and would not have been passed on to the recipient of assistance.

Subsidies were computed for the fiscal year ending March 31, 1979. Some agencies were excluded from the calculations, either because their loan or guarantee portfolio was smaller than $1,000,000 or because not all of the necessary data were available. Subsidies granted in connection with equity participation were not calculated because the expected return on equity portfolios could not be estimated with sufficient precision.

In all, 14 loan agencies, boards, and programs were included in our calculations for the business sector, nine in the agricultural sector, 12 in housing (all were combined into a single estimate, however) and one agency for the export sector (the Export Development Corporation).

All levels of government are represented in the estimates by at least one loan agency or program; the federal government is represented by six agencies. Together, these agencies and programs administered almost 80 per cent of public loans outstanding

to the four sectors under consideration, as of March 31, 1979.

The 15 guarantee agencies and programs for which a subsidy was computed cover almost 99 per cent of the guarantees and insurance in force on March 31, 1979. Again, the housing sector has been consolidated.

The consolidation of all housing agencies reflects the nature of their operations. The CMHC extends loans to the provincial agencies, which combine them with their own funds to make loans to the public. In addition, a large part of the agencies' assets is composed of housing projects outside our field of analysis. It was therefore practically impossible to determine correctly the administrative costs of each agency and program. Combining all agencies enabled us to eliminate double accounting of CMHC and provincial-agency loans, avoid some incorrect imputation of costs, and thus minimize the risks of error.

Results

In fiscal 1978/79, the amount of subsidies incorporated in loans for all sectors amounted to $196 million, based on the cash cost calculation, and to $906 million, based on the economic cost calculation. Guarantee programs produced a total financial surplus of $8.9 million.

These overall subsidies, however, conceal major sectoral differences. The agencies assisting the business sector distributed subsidies in the amount of $57 million (cash cost) or $176 million (economic cost). The largest part of these amounts was spent by the Federal Business Development Bank and the Ontario Development Corporation. Although federal agencies spent the highest amount on subsidies in all sectors, they provided the lowest subsidy rates when their size is taken into account. These rates also vary for the business sector from a minimum of 1.3 per cent for the FBDB to a maximum of 41.2 per cent for the Communities Economic Development Fund, based on the cash cost (Table A-2).

In the agricultural sector, the largest amounts of subsidy were provided by the Farm Credit Corporation and the Office du crédit agricole du Québec. Subsidy rates in this sector were, however, much more stable. Aside from the FCC, whose rate was only 1.1 per cent, the other rates ranged from 4 to 8 per cent (Table A-3). The entire housing sector, although it incorporated practically the largest amount of subsidies, registered a fairly low rate of subsidization when size is taken into account.

The EDC recorded the lowest rates of subsidization, based on both the cash cost (barely 0.2 per cent) and the economic cost (6.1 per cent) (Table A-3). Its insurance programs were profitable.

Table A-5 shows the average amount of subsidy incorporated in loans outstanding by selected agencies. For instance, each loan on the books of the FBDB in fiscal 1978/79 incorporated a subsidy of $575 (cash cost) or $3,274 (social opportunity cost).

Tables A-2 and A-3 show the contribution of various components to the rate of subsidy – namely the rate of interest charged on loans, administrative costs, losses, and the cost of funds. It appears that the larger the lending agency, the larger its interest income and the lower its administrative costs in relation to its loan portfolio, and the lower the subsidy rate. Large institutions such as the FBDB diversify their loan portfolio. They lend to both small and large businesses, and it is the large loans to large businesses that enable them to offset the transaction costs and higher risks associated with small loans issued to small businesses. Loans involving large amounts subsidize those to small businesses. This same type of subsidy occurs in a private institution. These large institutions pursue few social objectives, if any, through their daily operations.

Table A-1

Government Subsidies Incorporated in Loans and Loan Guarantees, as Measured by the Cash-Cost and Social-Opportunity Cost Methods, by Sector, Canada, 1979

	Cash cost		Social opportunity cost (loans)
	Loans	Loan guarantees[1]	
	($ Thousands)		
Business	57,315	4,127	176,062
Export	3,294	-6,840	117,807
Housing	66,953	-7,933	344,832
Agriculture	68,417	1,732	267,003
Total	195,979	-8,914	905,704

1 A minus sign indicates that the programs are in a surplus position and do not incorporate subsidies into their loan guarantees.

SOURCE Estimates by the Economic Council of Canada based on the annual reports of the agencies.

Table A-2

Components of the Subsidies Incorporated in Government Loans to Businesses, by Lending Agency, Canada, 1979

	Interest income per dollar of loan[1] (1)	Costs per dollar of loan			Net return (5)=(1)-(4)	Average cost of government debt[4] (6)	Cash cost		Social opportunity cost	
		Administration[2] (2)	Losses[3] (3)	Operations (4)=(2)+(3)			Subsidy rate (7)=(6)-(5)	Subsidy[5] (8)	Subsidy rate[6] (9)	Subsidy (10)
	(Per cent)							($ Thousands)	(Per cent)	($ Thousands)
Federal										
Federal Business Development Bank	11.3	3.4	0.8	4.2	7.1	8.4	1.3	19,683	7.2	112,005
Enterprise Development Program	6.4	3.5	-	3.5	2.9	8.4	5.5	791	11.4	1,649
Cape Breton Development Corporation	11.0	7.6	-	7.6	3.4	8.4	5.0	210	10.9	458
Newfoundland										
Newfoundland and Labrador Development Corporation	9.8	7.6	6.1	13.6	-3.9	9.3	13.2	1,486	18.1	2,043
Prince Edward Island										
Industrial Enterprises Incorporated	2.8	3.9	-	3.9	-1.1	10.3	11.5	1,656	15.4	2,225
P.E.I. Lending Authority	9.6	3.8	-0.3	3.5	6.1	10.3	4.3	225	8.2	432
Nova Scotia										
Industrial Estates Limited	11.1	1.2	2.1	3.3	7.8	10.0	2.1	2,063	6.4	6,238
N.S. Resources Development Board	7.4	0.4	-0.7	-0.3	7.8	9.9	2.2	1,298	6.5	3,883
New Brunswick										
Financial Assistance to Industry Program	8.0	0.6	7.0	7.6	0.4	9.8	9.4	2,997	13.9	4,438
Quebec										
Société de développement industriel	9.9	2.0	1.3	3.3	6.6	10.3	3.8	3,711	7.7	7,610
Ontario										
Ontario Development Corporation	6.7	2.4	5.6	8.0	-1.3	9.9	11.2	17,963	15.6	25,007
Manitoba										
Communities Economic Development Fund	6.1	18.0	19.5	37.5	-31.4	9.8	41.2	691	45.6	766
Alberta										
Alberta Opportunity Company	9.2	3.1	1.7	4.7	4.5	9.2	4.7	3,604	9.8	7,556
British Columbia										
B.C. Development Corporation	10.0	4.6	0.3	4.9	5.1	10.0	4.9	936	9.2	1,752

1 (Interest income in 1979 ÷ average of loans outstanding in 1978 and 1979) × 100.
2 (Administrative costs in 1979 ÷ average of loans outstanding in 1978 and 1979) × 100.
3 (Losses in 1979 ÷ average of loans outstanding in 1978 and 1979) × 100.
4 Calculated separately for each government by weighting the government bond yield with the average maturity of the loan portfolio of each agency.
5 Subsidy rate × average of loans outstanding in 1978 and 1979.
6 The social opportunity cost has been estimated at 14.26 per cent.

SOURCE Estimates by the Economic Council of Canada based on the annual reports of the agencies.

Table A-3

Components of the Subsidies Incorporated in Government Loans to the Agriculture, Housing, and Export Sectors, by Lending Agency, Canada, 1979

	Interest income per dollar of loan[1] (1)	Costs per dollar of loan			Net return (5)=(1)-(4)	Average cost of government debt[4] (6)	Cash cost		Social opportunity cost	
		Administration[2] (2)	Losses[3] (3)	Operations (4)=(2)+(3)			Subsidy rate (7)=(6)-(5)	Subsidy[5] (8)	Subsidy rate[6] (9)	Subsidy (10)
Agriculture	(Per cent)							($ Thousands)	(Per cent)	($ Thousands)
Farm Credit Corporation (federal)	7.8	0.7	0.1	0.7	7.1	8.1	1.1	28,673	7.2	196,613
Newfoundland Farm Development Loan Board	3.6	1.3	0.4	1.7	2.0	10.3	8.3	161	12.3	238
Prince Edward Island Lending Authority	9.1	3.6	-0.1	3.5	5.5	10.3	4.8	322	8.7	586
Nova Scotia Farm Loan Board	6.6	0.8	0.1	0.8	5.8	9.9	4.2	2,305	8.5	4,688
New Brunswick Farm Adjustment Board	6.5	1.0	1.0	2.0	4.5	10.0	5.4	1,239	9.8	2,220
Office du crédit agricole (Québec)	5.3	1.3	0.4	1.7	3.7	10.3	6.6	22,333	10.6	35,619
Manitoba Agricultural Credit Corporation	7.7	1.6	0.4	2.0	5.8	9.8	4.0	2,801	8.5	5,923
Saskatchewan FarmStart Corporation	5.0	1.6	0.3	1.8	3.2	9.9	6.7	5,853	11.1	9,668
Alberta Agricultural Development Corporation	7.4	1.1	0.1	1.8	5.7	9.2	3.5	4,729	8.6	11,448
Housing[7]	8.5	1.1		1.1	7.4	8.7	1.3	66,953	6.9	344,832
Export (EDC)	8.5	0.4	-	0.4	8.2	8.4	0.2	3,294	6.1	117,807

1 (Interest income in 1979 ÷ average of loans outstanding in 1978 and 1979) × 100
2 (Administrative costs in 1979 ÷ average of loans outstanding in 1978 and 1979) × 100
3 (Losses in 1979 ÷ average of loans outstanding in 1978 and 1979) × 100
4 Calculated separately for each government by weighting the government bond yield with the average maturity of the loan portfolio of each agency.
5 Subsidy rate × average of loans outstanding in 1978 and 1979
6 The social opportunity cost has been estimated at 14.26 per cent.
7 A subsidy and subsidy rate could not be calculated for each housing agency because of the interrelationships between CMHC and the provincial agencies.

SOURCE Estimates by the Economic Council of Canada based on the annual reports of the agencies.

Table A-4

Subsidies and Subsidy Rate Incorporated in Government Loan Guarantees, by Sector, and by Lending Agency, Canada, 1979

	Subsidy[1]	Subsidy rate[2]
	($ Thousands)	(Per cent)
Business		
Federal		
Enterprise Development Program	2,259	1.8
Small Businesses Loans Act	1,477	2.9
Department of Regional Economic Expansion	137	0.7
New Brunswick		
Financial Assistance to Industry Program	466	2.1
Quebec		
Société de développement industriel	-552	-0.5
Ontario		
Ontario Development Corporation	116	1.0
Manitoba		
Manitoba Development Corporation	-19	-0.4
British Columbia		
B.C. Development Corporation	244	4.3
Total	4,127	-
Agriculture		
Federal		
Farm Improvement Loans Act	376	0.3
Quebec		
Office du crédit agricole	1,043	1.0
Alberta		
Alberta Agricultural Development Corporation	312	0.2
Total	1,731	-
Housing[3]	-7,933	-0.1
Export (EDC)	-6,840	-0.7

1 Net losses (claims - recoveries) + administrative costs - fees
2 [Subsidies ÷ (guarantees in force in 1979 - guarantees in force in 1978) ÷ 2] × 100
3 Includes Canada Mortgage and Housing Corporation, Ontario Housing Corporation and Alberta Home Mortgage Corporation
SOURCE Estimates by the Economic Council of Canada based on the annual reports of the agencies

Table A-5

Average Subsidy per Loan on the Books, Selected Agencies Lending to the Business and Agriculture Sectors, Canada, 1979

	Cash cost	Social opportunity cost
	(Dollars)	
Business		
Federal Business Development Bank	575	3,274
Newfoundland and Labrador Development Corporation	23,593	32,436
Industrial Enterprises Incorporated (Prince Edward Island)	36,008	48,367
Nova Scotia Resources Development Board	5,032	15,051
Communities Economic Development Fund (Manitoba)	9,734	10,791
Alberta Opportunity Company	4,615	9,675
Agriculture		
Farm Credit Corporation (federal)	390	2,676
Office du crédit agricole (Quebec)	928	1,480
Manitoba Agricultural Credit Corporation	602	1,273
Saskatchewan FarmStart Corporation	1,311	2,165
Alberta Agricultural Development Corporation	1,060	2,565

SOURCE Estimates by the Economic Council of Canada based on the annual reports of the agencies

B Provincial Distribution of Government Assistance

This appendix presents in tabular form the provincial distribution of government assistance to three of the four sectors examined in this report.

Considering the total assistance to these three sectors, it appears that each province receives government assistance in roughly equal proportion to its contribution to gross domestic product (Table B-1). The situation is different when each sector is examined individually. The business sector of Ontario receives only 19.1 per cent of total assistance, while it contributes 50.1 per cent of the GDP in the manufacturing sector. (This situation can be explained in part by the omission of the Canada Development Corporation and the Export Development Corporation, whose activities were not broken down by province.) In the agricultural sector, Quebec receives more than its contribution (it receives 20.9 per cent of assistance and contributes 11.9 per cent of the GDP in the agricultural sector) and Saskatchewan receives less (20.5 per cent against 31.2 per cent). In the housing sector, Quebec receives proportionally less than the size of its housing supply. Tables B-1 to B-5 provide the details of these results.

Tables B-6 to B-9 indicate the contribution of each level of government. For the three sectors considered together, 85 per cent of the assistance is provided by the federal government and 15 per cent by the provinces. Guarantees are practically the exclusive domain of the federal government, which is liable for 96.6 per cent of the guarantees and the insurance in

Table B-1

Distribution of Government Assistance and Economic Indicators, by Sector and by Province,[1] Canada, 1979

	Business		Housing		Agriculture		All three sectors	
	Assistance	Gross domestic product, manufacturing	Assistance	Housing stock[2]	Assistance	Gross domestic product, agriculture	Assistance	Gross domestic product
	(Per cent)							
Newfoundland	4.6	0.7	1.4	1.9	0.2	–	1.6	1.3
Prince Edward Island	0.9	0.1	2.0	3.9	0.7	0.6	2.6	2.7
Nova Scotia	6.0	1.6			1.5	1.0		
New Brunswick	3.9	1.4	1.4	2.7	1.3	0.9	1.7	1.9
Quebec	33.1	27.7	19.0	26.4	20.9	11.9	21.0	23.5
Ontario	19.1	50.1	43.3	36.7	19.6	21.3	37.2	37.7
Manitoba	2.1	2.6	4.4	4.5	7.9	8.5	4.6	4.0
Saskatchewan	5.1	1.1	2.9	4.1	20.5	31.2	5.6	4.2
Alberta	9.6	5.2	12.5	8.0	24.9	20.3	13.8	12.5
British Columbia	15.1	9.5	12.9	11.6	2.5	4.3	11.7	11.8
Yukon and Northwest Territories	0.5	--	0.2	0.2	–	--	0.2	0.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

1 The activities of some federal agencies and programs could not be broken down by province due to lack of information. Of the government assistance to the business sector, 66 per cent has been broken down by province; 88 per cent, for the agriculture sector; and 100 per cent, for the housing sector.

2 Includes vacant housing. These figures are based on the 1976 Census.

SOURCE Canada Mortgage and Housing Corporation, *Housing Statistics in Canada*, 1981; The Conference Board of Canada, *The Provincial Economies, 1961-79 Data*, A Supplement to the Quarterly Provincial Forecast (Ottawa, 1980); and estimates by the Economic Council of Canada based on the Public Accounts of Canada and of the provinces.

force, while it holds only two-thirds of the loans and investments outstanding (Table B-9).

These proportions are not the same for each sector, however. In the business sector, the provinces intervene to the same extent as the federal government (Table B-6). In the housing sector, the federal government, through the Canada Mortgage and Housing Corporation largely dominates loans and investments, with 68.1 per cent of the amount outstanding, and it is liable for virtually all mortgage insurance (Table B-7). In agriculture, the federal government holds 75 per cent of the loans and investments outstanding, but the provinces dominate the farm loan guarantee field, with 73.7 per cent of total guarantees (Table B-8). The amount of farm guarantees is not very high, however, because only Quebec and Alberta intervene in a major way in this field.

Table B-2

Provincial Distribution of Government Assistance to the Business Sector, by Instrument and by Level of Government, Canada, 1979

	Loans and investments			Loan guarantees			Total assistance		
	Provincial	Federal	Both levels	Provincial	Federal	Both levels	Provincial	Federal	Both levels
	(Per cent)								
Newfoundland	5.7	2.9	4.3	12.1	0.2	6.5	6.6	2.5	4.6
Prince Edward Island	1.4	0.6	1.0	0.2	0.2	0.2	1.3	0.5	0.9
Nova Scotia	9.5	2.9	6.2	1.4	8.5	4.8	8.4	3.7	6.0
New Brunswick	1.9	3.4	2.6	22.6	0.9	12.3	4.7	3.0	3.9
Quebec	43.3	22.1	32.7	48.3	22.3	35.9	44.0	22.2	33.1
Ontario	11.2	25.0	18.1	5.3	48.3	25.7	10.3	27.9	19.1
Manitoba	1.7	2.6	2.2	1.5	1.5	1.5	1.7	2.4	2.1
Saskatchewan	8.4	2.8	5.6	1.7	1.7	1.7	7.5	2.7	5.1
Alberta	12.0	9.2	10.6	1.4	4.4	2.8	10.5	8.6	9.6
British Columbia	4.9	27.3	16.1	5.5	11.9	8.6	5.0	25.4	15.1
Yukon and Northwest Territories	–	1.2	0.6	–	0.1	–	–	1.1	0.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

SOURCE Estimates by the Economic Council of Canada based on the Public Accounts of Canada and of the provinces.

Table B-3

Provincial Distribution of Government Assistance to the Housing Sector, by Instrument and by Level of Government, Canada, 1979

	Loans and investments			Loan guarantees and credit insurance			Total assistance		
	Provincial	Federal	Both levels	Provincial	Federal	Both levels	Provincial	Federal	Both levels
	(Per cent)								
Newfoundland	1.0	5.3	4.0	–	0.7	0.7	1.0	1.4	1.4
Prince Edward Island	0.2	6.1	4.6	0.3	0.1	0.1	1.4	2.1	2.0
Nova Scotia	1.3			–	1.3	1.2			
New Brunswick	2.1	3.1	2.8	–	1.0	1.0	2.0	1.3	1.4
Quebec	0.1	32.3	22.0	–	18.2	18.2	0.2	20.4	19.0
Ontario	43.9	26.7	32.1	89.9	46.2	46.3	45.1	43.2	43.3
Manitoba	0.6	2.9	2.2	1.4	5.0	5.0	0.6	4.7	4.4
Saskatchewan	0.6	4.4	3.2	4.5	2.9	2.9	0.7	3.1	2.9
Alberta	35.6	7.3	16.4	3.9	11.5	11.5	34.8	10.8	12.5
British Columbia	14.6	11.9	12.8	–	12.9	12.9	14.2	12.8	12.9
Yukon and Northwest Territories	–	–	–	–	0.2	0.2	–	0.2	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

SOURCE Estimates by the Economic Council of Canada based on the Public Accounts of Canada and of the provinces.

Table B-4

Provincial Distribution of Government Assistance to the Agricultural Sector, by Instrument and by Level of Government, Canada, 1979

	Loans and investments			Loan guarantees			Total assistance		
	Provincial	Federal	Both levels	Provincial	Federal	Both levels	Provincial	Federal	Both levels
	(Per cent)								
Newfoundland	0.2	0.2	0.2	–	--	--	0.2	0.2	0.2
Prince Edward Island	0.6	0.8	0.8	–	1.7	0.5	0.4	0.9	0.7
Nova Scotia	6.2	0.2	1.7	0.2	0.8	0.4	4.5	0.2	1.5
New Brunswick	2.6	1.0	1.4	0.3	0.9	0.4	1.9	1.0	1.3
Quebec	36.6	13.6	19.4	44.5	0.6	33.0	38.8	13.0	20.9
Ontario	6.0	26.6	21.4	2.7	11.8	5.1	5.1	25.9	19.6
Manitoba	7.6	8.8	8.5	--	12.4	3.3	5.5	9.0	7.9
Saskatchewan	8.2	26.3	21.8	1.6	35.0	10.4	6.4	26.7	20.5
Alberta	32.0	19.1	22.3	49.7	33.0	45.2	36.9	19.7	24.9
British Columbia	–	3.4	2.5	1.0	3.8	1.7	0.3	3.4	2.5
Yukon and Northwest Territories	–	–	–	–	–	–	–	–	–
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

SOURCE Estimates by the Economic Council of Canada based on the Public Accounts of Canada and of the provinces.

Table B-5

Provincial Distribution of Government to the Business, Housing, and Agriculture Sectors Combined, by Instrument and by Level of Government, Canada, 1979

	Loans and investments			Loan guarantees and credit insurance			Total assistance		
	Provincial	Federal	Both levels	Provincial	Federal	Both levels	Provincial	Federal	Both levels
	(Per cent)								
Newfoundland	2.7	3.0	2.9	4.8	0.7	0.9	3.0	1.4	1.6
Prince Edward Island	0.7	3.7	4.6	0.1	0.1	0.1	5.6	2.1	2.6
Nova Scotia	5.6			0.7	1.3	1.3			
New Brunswick	2.1	2.4	2.3	9.0	1.0	1.3	3.1	1.4	1.7
Quebec	25.4	23.4	24.1	43.2	18.1	19.0	27.8	19.7	21.0
Ontario	22.5	26.3	25.0	9.3	46.0	44.8	20.6	40.2	37.2
Manitoba	2.6	5.0	4.1	0.7	5.0	4.8	2.4	5.0	4.6
Saskatchewan	5.4	11.9	9.7	1.8	3.1	3.0	4.9	5.7	5.6
Alberta	25.5	11.9	16.6	27.7	11.6	12.1	25.8	11.7	13.8
British Columbia	7.5	12.1	10.5	2.7	12.9	12.5	6.8	12.6	11.7
Yukon and Northwest Territories	–	0.3	0.2	–	0.2	0.2	–	0.2	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

SOURCE Estimates by the Economic Council of Canada based on the Public Accounts of Canada and of the provinces.

Table B-6

Share of Federal and Provincial Governments in Assistance to the Business Sector, by Province and by Instrument, Canada, 1979

	Loans and investments			Loan guarantees			Total assistance		
	Provincial	Federal	Total	Provincial	Federal	Total	Provincial	Federal	Total
	(Per cent)		($ Millions)	(Per cent)		($ Millions)	(Per cent)		($ Millions)
Newfoundland	66.4	33.6	144	98.5	1.5	33	72.4	27.6	176
Prince Edward Island	70.0	30.0	32	52.4	47.6	1	69.4	30.6	34
Nova Scotia	76.4	23.6	209	15.7	84.3	25	70.0	30.0	233
New Brunswick	36.3	63.7	88	96.5	3.5	62	61.2	38.8	150
Quebec	66.1	33.9	1,095	70.5	29.5	182	66.7	33.3	1,277
Ontario	30.8	69.2	606	10.7	89.3	130	27.2	72.8	736
Manitoba	40.3	59.7	72	52.2	47.8	8	41.4	58.6	80
Saskatchewan	75.0	25.0	188	51.9	48.1	8	74.0	26.0	196
Alberta	56.4	43.6	354	26.4	73.6	14	55.3	44.7	368
British Columbia	15.2	84.8	540	33.9	66.1	43	16.6	83.4	584
Yukon and Northwest Territories	–	100.0	21	–	100.0	–	–	100.0	21
Canada	49.9	50.1	3,349	52.4	47.6	507	50.3	49.7	3,855

SOURCE Estimates by the Economic Council of Canada based on the Public Accounts of Canada and of the provinces.

Table B-7

Share of Federal and Provincial Governments in Assistance to the Housing Sector, by Province and by Instrument, Canada, 1979

	Loans and investments			Loan guarantees and credit insurance			Total assistance		
	Provincial	Federal	Total	Provincial	Federal	Total	Provincial	Federal	Total
	(Per cent)		($ Millions)	(Per cent)		($ Millions)	(Per cent)		($ Millions)
Newfoundland	8.4	91.6	200	–	100.0	135	5.0	95.0	335
Prince Edward Island	9.8	90.2	233	1.1	98.9	13	4.8	95.2	479
Nova Scotia				–	100.0	233			
New Brunswick	24.3	75.7	139	–	100.0	184	10.5	89.5	323
Quebec	0.2	99.8	1,112	–	100.0	3,390	0.1	99.9	4,502
Ontario	43.5	56.5	1,625	0.5	99.5	8,640	7.3	92.7	10,265
Manitoba	8.4	91.6	109	0.1	99.9	928	0.9	99.1	1,037
Saskatchewan	6.5	93.5	161	0.4	99.6	537	1.8	98.2	698
Alberta	69.5	30.5	826	0.1	99.9	2,141	19.4	80.6	2,967
British Columbia	36.4	63.6	644	–	100.0	2,408	7.7	92.3	3,052
Yukon and Northwest Territories	–	–	–	–	100.0	44	–	100.0	44
Canada	31.9	68.1	5,050	0.2	99.8	18,654	7.0	93.0	23,703

SOURCE Estimates by the Economic Council of Canada based on the Public Accounts of Canada and of the provinces.

Table B-8

Share of Federal and Provincial Governments in Assistance to the Agricultural Sector, by Province and by Instrument, Canada, 1979

	Loans and investments			Loan guarantees			Total assistance		
	Provincial	Federal	Total	Provincial	Federal	Total	Provincial	Federal	Total
	(Per cent)		($ Millions)	(Per cent)		($ Millions)	(Per cent)		($ Millions)
Newfoundland	30.7	69.3	7	–	100.0	—	30.5	69.5	7
Prince Edward Island	18.5	81.5	29	–	100.0	2	17.1	82.9	32
Nova Scotia	90.3	9.7	65	38.8	61.2	2	88.9	11.1	67
New Brunswick	47.1	52.9	52	41.9	58.1	2	46.9	53.1	54
Quebec	47.2	52.8	740	99.5	0.5	164	56.7	43.3	904
Ontario	7.0	93.0	820	39.3	60.7	26	8.0	92.0	846
Manitoba	22.4	77.6	326	0.5	99.5	16	21.3	78.7	342
Saskatchewan	9.4	90.6	833	11.3	88.7	52	9.5	90.5	885
Alberta	35.8	64.2	851	80.8	19.2	225	45.2	54.8	1,076
British Columbia	–	100.0	98	42.0	58.0	9	3.4	96.6	106
Yukon and Northwest Territories	–	–	–	–	–	–	–	–	–
Canada	25.0	75.0	3,822	73.6	26.4	497	30.6	69.4	4,319

SOURCE Estimates by the Economic Council of Canada based on the Public Accounts of Canada and of the provinces

Table B-9

Share of Federal and Provincial Governments in Assistance to the Business, Housing, and Agriculture Sectors Combined, by Province and by Instrument, Canada, 1979

	Loans and investments			Loan guarantees and credit insurance			Total assistance		
	Provincial	Federal	Total	Provincial	Federal	Total	Provincial	Federal	Total
	(Per cent)		($ Millions)	(Per cent)		($ Millions)	(Per cent)		($Millions)
Newfoundland	32.6	67.4	350	19.2	80.8	167	28.2	71.8	518
Prince Edward Island	47.3	52.7	568	4.6	95.4	17	32.5	67.5	844
Nova Scotia				1.7	98.3	259			
New Brunswick	32.4	67.6	280	24.5	75.5	248	28.7	71.3	528
Quebec	36.5	63.5	2,947	7.8	92.2	3,736	20.5	79.5	6,683
Ontario	31.2	68.8	3,051	0.7	99.3	8,796	8.6	91.4	11,847
Manitoba	21.9	78.1	507	0.5	99.5	952	7.9	92.1	1,459
Saskatchewan	19.4	80.6	1,182	2.0	98.0	597	13.6	86.4	1,780
Alberta	53.1	46.9	2,031	7.9	92.1	2,380	28.7	71.3	4,412
British Columbia	24.7	75.3	1,283	0.7	99.3	2,460	9.0	91.0	3,742
Yukon and Northwest Territories	–	100.0	21	–	100.0	44	–	100.0	65
Canada	34.7	65.3	12,220	3.4	96.6	19,657	15.4	84.6	31,877

SOURCE Estimates by the Economic Council of Canada based on the Public Accounts of Canada and of the provinces

C Methods of Subsidization and Business Behaviour

The purpose of any subsidy is to encourage a business to undertake a socially beneficial project that would not be considered sufficiently profitable on the basis of private calculations alone. Subsidies may take any of the following forms: an investment grant, a production subsidy proportional to the volume of output, a subsidy by reduction of interest on a loan, a guarantee provided for a fee known to be less than the expected loss to the guarantor, and equity participation through the purchase of shares at a price in excess of fair market value. We will examine the relative effectiveness of each of these forms.[1]

The Impact of Subsidies

Three variables are involved in the evaluation of a private investment project: the initial outlay, the net cash flow that it will eventually yield, and the opportunity cost of the funds. The last one serves as the discount rate for the purposes of a cost-benefit analysis. It is equal to the rate of return of the best alternative investment of equal risk that must be abandoned so that the project under consideration can be undertaken. It is thus an opportunity cost. A government agency or board wanting to push a private project that would be of considerable social benefit beyond its break-even point must act upon one of these three variables. The capital outlay required of the entrepreneur is reduced by an investment grant. The periodic cash flow generated by a project is increased by a production subsidy. Recourse to financial instruments has only an indirect effect, however. The discount rate cannot be reduced, because it is the opportunity cost of the resources invested in the project. This is not immediately affected by the government program. The government may extend a loan on more favourable terms than would private lenders, or it can guarantee the loan so that private lenders would lower their lending rate. It may also participate in the firm's equity on terms that a private investor would find unacceptable. In all these cases, the government accepts a return on its investment which is less than the opportunity cost of these funds. The difference will increase the cash flow of the entrepreneur. Consequently, despite appearances, government intervention never focuses on a project's discount rate but always on the cash flow received by the other investors. A low-interest loan, for example, increases the cash flow to shareholders without changing their estimate of the cost of capital. Although this cost cannot be changed by financial subsidies, government can reduce its influence on shareholder decisions by shutting off other investment alternatives.

The independence of the cost of capital from financial subsidies has important implications for the design and effectiveness of subsidy programs. Suppose that a project yields 10 per cent but the cost of capital – the rate of return from alternative projects – is 15 per cent. Would the 10 per cent project be undertaken, if government gave subsidies to reduce the cost of finance to 9 per cent or less? The answer must be negative, because the most profitable use of 9 per cent money is one that yields 15 per cent. If government wanted the 10 per cent project to move ahead, it would have to make that a condition of the subsidy. It must rule out the use of capital for any other purpose.

The requirement of suitable collateral for a subsidized loan would seem to prohibit other uses of borrowed money, to eliminate other investment alternatives, and to make the rate of return to other projects irrelevant to the borrower. This will not always be the case, however. The government loan may give the borrower an opportunity to put his equity somewhere else than the project supported by government. The assets used as collateral and representing the investments favoured by government may be new or used. If they are used, government financial assistance may be giving the vendor a better opportunity to get out of the business of the subsidized borrower.

To get the most economic impact from the least possible financial subsidy, government would have to know all of the borrower's investment options and control the use of not only its own funds, but also of the borrower's, including the ulterior uses of funds by

the vendors of used assets that act as security for government loans.

Once the alternative investment opportunities are eliminated, there are other important details of subsidy design to settle. Table C-1 shows the effects of different alternative subsidy arrangements, all of which have the same present value. The analysis takes into account fixed and variable operating costs, as well as fixed and variable financial charges (i.e., the interest on debt and the dividend on preferred shares). The operating income is the difference between sales and the sum of the fixed and variable operating charges. The higher the ratio of fixed/total operating charges, the more variable will operating income be. The volatility of income gives rise to operating risk. It is assumed here that fixed operating charges are associated with employment of physical capital, while the variable operating cost is linked to labour and materials. Net income results from deducting fixed financial charges from operating income. Again, the higher the fixed financial charges, the more sensitive will net income be to changes in operating income. That second source of volatility or instability gives rise to financial risk. It is directly related to the debt/assets ratio. Financial and operating risk have a multiplicative effect on one another: they combine to produce total risk. The more sensitive net income is to changes in sales, the higher is the total risk level. Initially, the subsidizing agency might decide to make the business an unconditional, tax-free gift. To this possibility, one could contrast that of an investment grant. The first line of Table C-1 shows what differential impact a subsidy attached to the acquisition of tangible assets would have on the characteristics of the company, the behaviour of its directors and principal shareholders, and its financing. The following lines in Table C-1 show the effects of other types of subsidy assistance.

The investment grant contemplated here consists in payment by government of a certain proportion of the initial outlay necessary to undertake a project. Its initial effect is to reduce the price of physical capital for the entrepreneur, relative to the price of labour; consequently, the subsidized project will employ more capital per man than it otherwise would. The ratio of fixed/ total cost of production will then increase, resulting in greater instability in the project's operating income. In other words, a business that has replaced variable costs with fixed costs renders its long-term financial position less certain. The greater variability of operating income is, however, offset by a greater stability of production and employment. The government may regard this secondary effect as desirable.

Financial risk would have to be reduced to keep total risk constant after an increase in operating risk. This objective is, at least in part, automatically achieved when the firm benefits from a grant or receives a gift, because this grant or gift is considered by financiers as an increase in shareholders' equity and effectively reduces the firm's debt-to-asset ratio. But, in the case of an investment grant, the firm will probably make additional adjustments to financing, investment, and production with a view to reducing financial risk in order to balance its higher operating risk. Finally, income taxes will increase, since the subsidized portion of the investment cannot be depreciated for income tax purposes.

The second line of Table C-1 shows the effect of a production subsidy. In this instance, in each fiscal year the government pays the subsidized business a sum of money proportional to the number of units produced, and the present value of these payments is deemed equivalent to the alternative investment grant just discussed. At 10 cents per unit, for example, the subsidy is $100 for a year in which 1,000 units were produced. This form of assistance represents, for the firm, a reduction in its variable costs. In the short run, employment and production levels will be more stable than otherwise, at the cost of a relative increase in the volatility of operating income and a higher break-even point; in order words, the firm will only be able to cover its costs at a higher level of production. In the long run, it will be more difficult for the firm to expand, because its risk will be higher. There will be an induced effect on financial risk that managers will want to reduce, in order to offset the increase in operating risk. Finally, it should be noted that the production subsidy is cyclical: in a period of expansion, it provides a high cash flow, but when demand for the product drops, the subsidy also decreases. Cyclical variations in cash flow are thus amplified. The effect on the company's taxes will depend on the relationship between the timing of the subsidy payments and that of the tax depreciation. It seems, then, that a private businessman will always prefer an investment grant to a production subsidy, and that the greater the variability in production, the greater this preference. An up-front grant is clearly more certain than a future production subsidy that depends on variations of the demand for the product.

Subsidized loans and guarantees increase the firm's financial risk. In addition – and in this they differ from direct subsidies – they may, in certain instances, bring about a change in the directors' behaviour.[2] In the most extreme case, if almost the entire investment were financed by loans, the directors might become more favourably inclined towards very risky projects, knowing that any profits would belong to

them and their fellow shareholders, whereas any losses resulting from a disaster would be the creditors'. The loan also presupposes slightly higher monitoring costs, because the loan contract has to be supervised until maturity. Finally, the recipient firm's cash flow is increased only temporarily, as the recipient must make principal and interest payments. The effect on the firm's taxes would be favourable, because the interest on the loan is an allowable expense for income tax purposes, and the depreciation allowance would be greater than in the case of an investment grant.

A subsidy incorporated into a convertible loan by over-valuation of conversion rights differs from the foregoing types of subsidy by giving managers different incentives. If the project is a financial success, the value of the common shares will increase, and the lender could participate to some extent in future profits by exercising his conversion rights. This possibility would encourage the management team to be less diligent, for it might mean losing a share in the fruits of its labours. But the greater the cost of converting the loan into share capital, the smaller this effect will be.

Finally, the last two options are equity participations in the subsidized business. Their characteristics are the same as those of the convertible loan but more pronounced. Equity participation may be accompanied by a series of options through which the parties can protect their interests. Otherwise, financing through share capital that is not owned by the manager may weaken his interest in the firm.

If the owners of private businesses were offered an unrestricted choice between an outright gift conditional on investment and production and any of the various forms of subsidies shown in Table C-1, they would undoubtedly choose the former. But if they could not do so, their preference, in decreasing order, would generally match the order going from the top to the bottom of Table C-1. Government preferences would be less marked. If we were to seek the forms of subsidy that minimize the distortion of technological choices and financial structure, the government's preference, in decreasing order, would be the reverse of the firm's – going from bottom to top.

Conclusion

Subsidies may take a number of forms that influence the behaviour of firms in various ways. Consequently, they are not perfectly interchangeable, so that careful thought is required in the selection process. The closer an instrument is to the centre of Table C-1, the greater the compromise between the preferences of government and those of business owners.

Table C-1

Effect of Various Forms of Government Subsidy on Businesses in the Private Sector

	Characteristics of the business		Behaviour of managers (agency costs)			Financing	
	Operating risk	Financial risk	Diligence	Attitude toward risk of projects	Withdrawals in kind and monitoring costs	Cash flow	Income tax
Form of subsidy:							
Investment subsidy[1]	Increase	Decrease (induced effect)	None	None	None	Permanent contribution and increase in borrowing power	Increase
Production subsidy	Increase	Decrease (induced effect)	None	None	None	Permanent cyclical contribution	Increase[2]
Loan	Decrease (induced effect)	Increase	None	Decrease in case of "extreme" indebtedness	Slight increase	Temporary contribution	Decrease
Loan guarantee	Decrease (induced effect)	Increase	None	Decrease in case of "extreme" indebtedness	Slight increase	Temporary contribution	Decrease
Convertible loan	Decrease (induced effect)	Increase (before conversion)	Decrease	None	Increase	Permanent contribution with "success" only	Decrease
Redeemable, preferred share capital	Increase (induced effect)	Increase	None	Decrease	Slight increase	Permanent contribution	None
Common share capital	Decrease (induced effect)	Decrease	Decrease	Decrease	Significant increase	Permanent contribution and increase in borrowing power	None

1 Compared with a tax-free gift.
2 If the timing of payments is faster than that of tax depreciation.

D Government Support of Export Credits among the OECD Countries

A number of OECD countries – Canada's major competitors – support their exports through financial instruments. It is instructive to compare Canada's export assitance with the systems in place in those countries.

The Mechanisms in Place

All of the 18 countries listed in Table D-1 have specialized institutions offering export credit or export credit insurance, or both. In most cases these institutions are public or mixed. The few that are private usually maintain close links with government.

Objectives

The history of subsidized export finance can be traced back to the beginning of this century. At that time, French and German banks extended cheap but tied export credits. The ties were made in favour of exporting companies in which they had equity participation.

Higher prices for export merchandise compensated for cheap credit – a trade-off that attracted borrowers with cash-flow problems. Britain, which then had a brisk export business, did not subsidize its exports. The continental practice of tying loans was discussed in London during the pre-1914 period of Anglo-German trade rivalry, and it was rejected on the ground that tied loans would damage the City's business, and in the knowledge that those giving tied loans were largely dealing with less credit-worthy borrowers. As a matter of fact, the private sector virtually abandoned the tying of loans, which French and German banks left to a large extent to their governments. The British finally entered the tied-loan business late, as there was a decline in the British export trade, relative to that of the United States. The postwar deterioration in the system of multilateral trade and payments also led other countries to give official export-credit support. Belgium's Office national du ducroire was created in 1921, and the Eximbank of the United States in 1934.

Various countries justified their presence in export finance by citing the particularly risky character of this activity, an incompletely developed banking system, and the private institutions' relative lack of interest in this type of financing. The concept of a credit gap was thus present from the early days of public export-financing agencies. This concept is still largely used today, France, for example, claims that its banking system is not fully developed and that this places its exporters at a comparative disadvantage which justifies government intervention.

Public intervention in Japan, on the other hand, is justified by the vital need to obtain foreign currency in order to pay for imports of the natural resources that Japan lacks. This is an example of the concept of externalities being applied when the social benefits are deemed to exceed the purely private benefits of export activity.

But undoubtedly the reason most often given to justify export support is the need to balance the country's payments and to stimulate domestic output and employment. Thus government intervention through financial instruments is one option in an arsenal of policies adapted, in varying degrees, to the objectives pursued. The rise in oil prices and recent competition from newly industrialized countries have eroded the competitive position of several of the advanced countries and led to deterioration in their balances of payments. It is partly in an effort to solve these problems that governments have intensified their support of exports.

Government support, particularly in France and Britain, has become so extensive that many other countries believe they are losing markets that would normally be theirs. This development has dispelled any remaining hesitancy in the United States, which until quite recently was still refusing to compete with the other industrialized countries through export subsidies. The United States is now justifying its entry into this field by what is sees as unfair competition from its partners.

Public Systems of Direct Financing

Almost all countries support medium- and long-term financial assistance to stimulate the export of capital goods and certain services. These credits are generally offered at interest rates that are below the market level and are fixed for the duration of the credit. Without government support, the banking system provides only short-term credits at competitive rates. The systems adopted to provide support vary widely from one country to another. In the majority of those that are represented in Table D-1, official financial support is provided to the banking sector, and in some countries export credits are provided directly by government or mixed agencies.

The OECD divides its member countries into three major categories with respect to their system of export finance. In the first category, composed of West Germany, Austria, and Switzerland, government intervenes only marginally. This system is referred to as one of "pure cover," since government activity is focused on insurance, guarantees, and refinancing. In West Germany, the AKA – a consortium of private banks – refinances loans made by its members and occasionally presents them for rediscounting by the government; in Austria, the OKB refinances commercial bank loans; in Switzerland, there is no lending institution linked to government.

The governments of the countries in the second category – the United States, Canada, Australia, and Japan – have set up public institutions that directly finance borrowers without any banks acting as intermediaries. For example, the U.S. Eximbank provides fixed-rate, long-term credit, while seeking financial participation by commercial banks, and refinances export loans. So does the Eximbank of Japan.

The third category includes all of the remaining countries. The public institutions in these countries generally use commercial banks as intermediaries to deal with borrowers. These countries have developed a variety of facilities, all of which are designed to subsidize export credits. In the United Kingdom, for example, individual banks can provide export credits at below market rates; they then receive a compensating subsidy directly from the government. In France, official financing is supplied in two forms and is arranged through the Banque française du commerce extérieur (BFCE). Credits with a duration of 2 to 7 years are financed partly by the banks' regular resources and partly with funds refinanced at a special rate by the Banque de France through the BFCE. Loans with maturities of seven years or more are financed by the BFCE entirely with market funds, with an interest subsidy from the Treasury.

Insurance and Guarantee Programs

Each of the countries listed in Table D-1 has an institution specialized in export credit insurance. Few of them are fully private companies, however. Those that are private maintain a close relationship with their government for transactions outside the purely commercial field. The Hermès group in West Germany insures exports in the name, and on behalf, of the government. The NCM group in the Netherlands insures commercial risks for its own account and reinsures with the state noncommercial risks and medium- and long-term commercial risks that it cannot take for its own account or for the account of its private reinsurers. The FCIA in the United States covers commercial risks for its own account, with occasional reinsurance with Eximbank being possible, and noncommercial risks for the account of Eximbank.

Purely commercial risks include the insolvency of the private buyer or a protracted interruption of payments. Governments insure directly or reinsure other risks of loss, resulting from war, natural disasters, foreign-exchange restrictions, the freezing of accounts, exchange-rate fluctuations, nonpayment by a foreign government, investments in developing countries, and protracted default by in developing countries or private purchasers in industrialized countries if maximum credit term exceeds five years.

Export credit insurance is generally not used to subsidize exports. The premiums are structured to cover administrative costs and add to reserves for potential losses. The only insurance programs containing an implicit subsidy are those that cover extraordinary risks. Table D-2 gives a comparison of the range of risks covered by various countries. Commercial and political risks are covered by all countries. The most significant differences are in the coverage of special programs. Canada and the United States cover neither risks linked to inflation nor those caused by fluctuations in exchange rates.

Private-Sector Participation

Private-sector participation in export financing can take several forms. The most frequent is through a private or mixed financing or credit insurance institution that administers public programs for the government. The West German government carries both the political and the commercial risks but has entrusted Hermès with the management of the business and the government's account. Norwegian authorities encouraged the creation of a private consortium, Eksportfinans, to finance and refinance export credits. In Spain, the government is a major shareholder in the External Bank of Spain, while in Belgium

the government is a minority shareholder in Creditexport.

Government can also encourage private-sector participation by offering to refinance commercial bank loans, as is done in New Zealand by the Reserve Bank, or to reinsure loans, as the Office national du ducroire does in Belgium.

Finally, another way to involve the private sector – the only method used in Canada – is to seek bank participation in the financing of each transaction. Canada is not, however, the only country to use this approach. The U.S. Eximbank and the Eximbank of Japan also actively encourage joint participation of the private sector, but in these countries private-sector participation is not limited to this one form. Joint participation does not necessarily bring the private sector into the decision-making process. Participation of business representatives on the board of directors of public institutions alone is not sufficient to involve the private sector in the decision-making process in individual financings. Furthermore, banks are only interested in mixed financing when there is a profit to be made.

The Extent of Government Support

Despite the different structures of the financing systems, it is possible to estimate the relative extent of government export support. One of the most important variables to consider is the proportion of exports officially supported by export credit. This is shown in Table D-3. In terms of either total loans outstanding, new obligations, or the percentage of exports supported by export credits, Canada ranks among the countries with the smallest level of intervention. In 1980, Canada supported only 0.9 per cent of all exports. Some countries believe, however, that this measure of the degree of support places them at a disadvantage in comparison to countries such as Canada. Canadian exports contain a high proportion of raw materials, which generally do not require government support, and the manufactured goods that Canada exports are sold primarily in the United States – a market which poses little more risk than the domestic one. By comparison, over 95 per cent of the export credits of the six largest exporting countries are granted to nonindustrialized countries or to socialist countries. On the other hand, the European Economic Community (EEC) forbids its members from subsidizing transactions within the EEC in any way. Thus one can define a potential market for official export support that encompasses manufactured exports to countries that do not constitute a natural extension of the domestic market. But even when we look at the new obligations as a percentage of the potential market, Canada still is the country with the least amount of government support. Less than 6 per cent of its exports to the potential market receive government support, while France and Britain register the highest proportion of comparable exports receiving public assistance.

Apart from the credits granted by the industrialized countries, it is also interesting to examine the loans received by them. While the EDC holds loans outstanding of $3.7 billion, Canadian importers have received credits supported by foreign governments, of which $1.2 billion are outstanding. Thus Canada disburses 3.2 times more in support of its exports than the credits it receives for its imports – the lowest ratio among the major OECD countries.

Some reservations are necessary, however. It is hard to find recent and comparable data on the financing activities of various countries. To obtain a complete picture of government intervention, one would have to know, by length of term, the amounts of direct credits and insured credits receiving government support. Unfortunately, the data in Table D-3 provide only part of this information; but they do confirm what most observers consider to be the current situation. France and Britain intervene on a vast scale, while the United States, West Germany, Japan, and Canada intervene to a much lesser extent.

This conclusion is also supported by an analysis of the effective interest rates paid by borrowers and the prevailing interest rates within each country. The effective interest rate is the rate paid by the borrower when all sources of financing are considered together. Table D-4 shows that Canada, with West Germany and the United States, charged the highest nominal interest rate – 13 per cent – on its export credit. But when this rate is compared with domestic interest rates, we find that only West Germany charges its exporters a higher rate than the market rate. All of the other countries, particularly France and Britain, have domestic rates that are higher than those applied to their export credits.

This disparity between domestic and export interest rates leads to the measurement of the subsidy as computed on the basis of domestic private opportunity cost.[1] Table D-5 again confirms the larger extent of government intervention by France and Britain. The U.S. Treasury has estimated that subsidies incorporated in export loans amounted to approximately US$ 7 billion in 1980 alone, not counting direct subsidies.

These statistics do not cover all aspects of public financing. The quality of public systems also depends on a certain number of unmeasurable variables, such as the diligence with which the agency meets the

demand for loans and the attitude of its staff toward new initiatives, as well as on technical considerations such as repayment terms, the possibility of obtaining a fixed rate loan, and the lending agency's flexibility when difficulties arise.

A final and undoubtedly important aspect is the impact of fluctuations in exchange rates on a country's debt. Everything else being equal, a country will always gain by incurring debts in a depreciating currency. A study by the Eximbank of the United States concludes that "the variations in debt service payment caused by fluctuating exchange rates was over 15 times as great as the variation caused by differences in the effective cost of a credit."[2]

While there is common agreement that export support practices create distortions in international trade, are particularly costly to exporting countries, and provide benefits mainly to purchasers, no country is prepared to abolish them unilaterally. For this reason, the OECD in 1963 set up a working group specializing in public export finance – the Group on Export Credits and Credit Guarantees. In addition to promoting discussions and distributing relevant information on public programs, the Group opened the way in 1976 for a first agreement on almost all aspects of government export financing with terms of more than 2 years, based on the principle of reciprocity. The terms of this "Consensus" agreement are periodically reviewed, primarily to adjust interest rates to the new economic situation. Only "crédit mixte" is not covered by a specific agreement, but discussions on this matter are continuing. The primary points of this agreement are presented below.

The Consensus agreement sets minimum rates based on the status of the borrowing country (relatively rich, intermediate, relatively poor) and on the term to maturity. Effective July 1982, these rates vary from 12.4 to 10.0 per cent. In all categories, these rates are lower than those prevailing within most countries and thus do not eliminate subsidies but limit their use. If rates for commercial loans in the national currency fall below the lowest minimum level, an official blended rate, set at 0.3 per cent above the commercial lending rate, is authorized by the Consensus agreement.

The maximum repayment term is set at 8.5 years for relatively rich and intermediate countries; for relatively poor countries and for a group of developing countries recently upgraded to the intermediate category, it is set at 10 years. The loan should normally be repayable in equal and regular instalments not less than every six months, beginning no later than six months after disbursement. A cash payment of at least 15 per cent of the export contract value must also be required.

For local costs (defined as "expenditure for the supply from the buyer's country of goods and services which are necessary either for executing the exporter's contract or for completing the project of which the exporter's contract forms part") "participants will not finance or insure credit for more than 100 per cent of the value of the goods and services exported for credits to intermediate or relatively poor countries. Thus the amount of local costs supported on credit terms will not exceed the cash payments. Furthermore, participants will not grant such support for local costs carrying interest rates or repayment terms more favourable than those supported for the exports to which such local costs are related. For credits to relatively rich countries precedent provisions apply, provided, however, that any support will be confined to insurance or guarantees."[3]

Some special arrangements that may supercede these agreements are allowed for certain kinds of export products, such as nuclear power plants, ground satellite communications services, and ships.

All countries not intending to respect these arrangements must notify the other member countries of the terms that they intend to support and explain the reasons for their decision. The other partners may then match their bids accordingly.

Table D-1

Major Financial Institutions Specialized in Export Credit and Credit Guarantees, Selected OECD Countries, 1982

	Institution	Year of creation	Status	Loans	Guarantees/ insurance	Description
Australia	Australian Banks' Export Refinance Corporation (ABERC)	1969	Private	X		- Private organization jointly operated by commercial banks which refinances loans to its members without government assistance.
	Export Finance and Insurance Corporation (EFIC)	1974	Public	X	X	- Its primary activity is to insure exports for which the risks are not normally covered by the private sector. Some activities deemed in the national interest may be insured on behalf of the government. - EFIC also finances medium- and long-term exports but only when competition from foreign financing programs makes this necessary. EFIC must not compete with private institutions. When "national interest" dictates, it can also, at its discretion, lend on behalf of the government.
Austria[1]	Oesterreichische Kontrollbank AG (OKB)	1946	Mixed	X	X	- Mixed agency with shares distributed among 10 private institutions and 2 large nationalized banks and which mainly refinance medium- and long-term export credits. Some transactions deemed in the national interest are conducted under a special account. - Also administers public loan guarantee programs.
Belgium[2]	Creditexport	1959	Mixed	X		- Non-profit association, whose major shareholders are commercial banks, which finances medium- and long-term credits.
	Office national de ducroire (OND)	1939	Public	X	X	- Insure both political and commercial risks either directly or by reinsuring privatre insurance companies. Projects deemed in the national interest are insured under a special account. - OND may finance export credits in special cases.
Canada[3]	Export Development Corporation (EDC)	1969	Public	X	X	- EDC finances long-term export credits. Transactions deemed in the national interest are financed under a special account on behalf on the government. - EDC also provides a full range of insurance policies on its own account and on the behalf of the government and a loan guarantee program for private loans. Canada has only one private export insurance company.

Table D-1 (cont'd)

	Institution	Year of creation	Status	Loans	Guarantees/ insurance	Description
Denmark[4]	Danish Export Finance Corporation (DEFC)	1975	Private	X		- Private export lending institution established by the Danish Central Bank and the private banking sector which participate, jointly with an outside institution, to the financing of medium- and long-term export credits.
	Export Credit Council (EKR)	1960	Public		X	- Insures exports and guarantees bank loans.
Finland	Bank of Finland	..	Public	X		- Rediscounts short-term credit.
	Finnish Export Credit Limited (FEC)	1963	Mixed	X		- Mixed institution where the government is the majority shareholder, which issues medium- and long-term loans.
	Export Guarantee Board (VTL)	1962	Public		X	- Insures exports, especially where medium- and long-term financing is required.
France	Banque française du commerce extérieur (BFCE)	1946	Public	X		- Credit duration of 2 to 7 years are financed partly by the banks from their regular resources, and partly with funds refinanced though the BFCE by the Bank of France at a special rate. - Maturities beyond 7 years are refinanced by BFCE only, entirely from market funds, with an interest subsidy.
	Compagnie française d'assurance pour le commerce extérieur (COFACE)	1946	Mixed		X	- Joint stock company of a parapublic character covering short-term commercial risks for its own account, while operating the credit insurance service on behalf of the government.
Italy	Mediocredito Centrale (MC)	1952	Public	X		- Refinance medium- and long-term export loans issued by commercial banks, or if the banks do not have their loans rediscounted, grants the banks an interest subsidy. In practice, however, while MC offers the full range of loans, its funds are very limited.
	Special Section for Export Credit Insurance (SACE)	1977	Public		X	- SACE is an autonomous section of the National Insurance Institute (INA), a conventional public insurance company, which manage the insurance, the re-insurance and the guarantee program of the government.
Japan	Export-Import Bank of Japan (EXIM)	1950	Public	X		- Issues medium- and long-term export financing and refinancing, while seeking financial participation by private banks. Request for financing pass through commercial banks.
	Export Insurance Division (EID) of the Ministry of International Trade and Industry (MITI)	1930	Public		X	- EID insures export credits.
Netherlands	NV Export-Financiering-Maatschappij (EFM)	1951	Private	X		- Consortium of commercial banks financing medium- and long-term export credits.

Table D-1 (cont'd)

	Institutions	Year of creation	Statut	Loans	Guarantees/ insurance		Description
	Dutch Central Bank		1967	Public	X		- An exporter, through his bank (in the case of supplier credit), or the bank itself (in the case of purchaser credit), can obtain limited refinancing at central bank government bond rates. If necessary, an interest subsidy is available to compete with another country.
	Nederlandsche Credietverzekering Maatschappij (NCM)		1925	Private		X	- Insures commercial risks for its own account and can reinsure with the government non-commercial and commercial risks which it cannot take for its own account.
New Zealand	Reserve Bank (RB)		1971	Public	X		- New Zealand exports do not call for entended credit terms. However, the banks are giving priority in their lending to export financing and the government introduced three refinancing scheme, operated by the Reserve Bank.
	Export Guarantee Office (EXGO)		1964	Public		X	- Insure and guarantee export loans.
Norway	Eksportfinans		1962	Private	X		- Association of commercial banks, whose creation was encouraged by government, which finances medium- and long-term export credits.
	Guarantee Institute for Export Credits (GIEK)		1960	Public		X	- Provides government export insurance programs and may extend its programs to some transactions recommended by the development agency for developing nations.
Spain	External Bank of Spain		1928	Mixed	X		- Since 1972 the State has had a majority holding of 62 per cent in the Bank's share capital. Since 1971, certain banks are required to assign a proportion of their assets to export financing but when these funds are inadequate, the Exterior Bank of Spain itself provides the capital.
	Spanish Export Credit Insurance Company (CESCE)		1972	Mixed		X	- Mixed company whose shares are majoritarily owned by government which underwrite commercial and non-commercial risks for government and on its own behalf. CESCE may also issue guarantees to the financial institutions directly.
Sweden	Swedish Export Credit Corporation (SEK)		1962	Mixed	X		- Owned 50 per cent by government and 50 per cent by banks, SEK offers besides normal commercial export credit financing, an officially supported refinancing facility.
	Swedish Investment Bank Limited		1967	Public	X		- Finances medium- and long-term exports at market rates.
	Export Credit Guarantee Board (EKN)		1933	Public		X	- Provides government insurance programs.
Switzerland	Office for Guaranteeing Export Risks (GERG)		1934	Public		X	- Insures non-commercial risks. There is no public export credit agency in Switzerland, the private sector providing the available funds of financing and refinancing.

Table D-1 (concl'd)

	Institution	Year of creation	Status	Loans	Guarantees/ insurance	Description
United Kingdom	Export Credits Guarantee Department (ECGD)	1919	Public	X	X	- There is no specialized institutions for export credit financing, but the government ensure the availability of funds at competitive rates. Commercial banks finance exports at preferential rates and are guaranteed of a commercial rate of return which takes the form of an interest subsidy, a refinancing practice or an insurance, all provided by ECGD.
United States	Export-Import Bank (Eximbank)	1934	Public	X	X	- Issues long-term loans while seeking financial participation by commercial banks. Under certain conditions, refinances export loans granted by commercial banks. - Guarantees some medium-term banks transaction, against commercial and non-commercial risks. Guarantees unconditionally PEFCO loans and share the credit risks with FCIA on insurance programs.
	Private Export Funding Corporation (PEFCO)	1971	Private	X		- Association of 54 private company whose participation is encouraged by Eximbank in periods of tight credit, and who receive unconditional guarantees by Eximbank.
	Foreign Credit Insurance Association (FCIA)	1962	Private		X	- Association of more than 50 private insurance companies which operates in co-operation with Eximbank. It covers commercial risks for its own account, with an Eximbank reinsurance, and non-commercial risks for the account of Eximbank.
West Germany[5]	Ausfuhrkredit-Gmbh (AKA)	1952	Private	X		- Syndicate comprising 56 German commercial banks which finance and refinance exports credits of its members. Some credits granted mainly to developing countries and state-trading countries can be refinance through the Bundesbank.
	Hermes (and Treuarbeit)	1926	Private (and public)		X	- A mandatory consortium consisting of a publicly held corporation (Treuarbeit) and a private insurance corporation (Hermes), manage the insurance business in the name and for the account of the government, which carries both political and the commercial risks.

1 Austria also has a special fund for refinancing a very limited proportion of short-term credits.
2 Belgium also has the Comite pour la promotion des exportations (COPROMEX), which offers interest rate subsidies, and the Institut de reescompte et de garantie (IRG), which refinances certain short-and medium-term credits.
3 In Canada, soft loans to developing countries are arranged in co-operation between EDC, commercial banks, and the Canadian International Development Agency (CIDA).
4 The Danish International Development Agency (DANIDA) also has a guarantee program for exports to developing countries.
5 West Germany also has a public loan agency, Kreditanstalt fur Wiederaufbau (KfW), which extends credits mainly to developing countries.
SOURCE Organization for Economic Co-operation and Development, *The Export Credit Financing Systems in OECD Member Countries* (Paris: OECD 1982).

Table D-2

Frequency of Use of Export Insurance Programs, Selected OECD Countries, 1982

	Regular insurance programs			Special insurance programs					
	Commercial	Political	Production	Inflation insurance	Exchange risks insurance	Mixed credit and tied aid	Local costs supports	Bond insurance	Number of categories covered
Canada	D	D	A	A	A	C	C	B	5
France	D	D	B	D	D	D	C	B	8
Japan	D	D	B	A	D	C	C	B	7
United Kingdom	D	D	B	C	A	C	C	B	7
United States	D	D	A	A	A	C	C	A	4
West Germany	D	D	B	A	D	C	C	B	7

A Not available
B Used, but no information on frequency of use
C Available, but infrequently used program (mainly to match with competing offers)
D Extensively used program

SOURCE International Marketing Policy Group, "Major Competitors' Export Incentives Programs," July 18, 1980; Export-Import Bank of the United States, *Report to the U.S. Congress on Export Credit Competition and the Export-Import Bank of the United States (for the period July 1, 1980 through December 31, 1980)*, October 1981; and OECD, *The Export Credit Financing Systems*.

Table D-3

Export Credits with a Term of More than One Year Receiving Government Support, OECD Countries, December 31, 1980

	New obligations[1]			Total amount of credit			
	Amount (1)	As a proportion of exports (2)	As a proportion of potential exports[2] (3)	Given and outstanding[3] (4)	Received and outstanding (5)	Net credit given (6)=(4)-(5)	Credits given per dollar of credit received (7)=(4)/(5)
	(U.S. $ Millions)	(Per cent)	(Per cent)		(U.S. $ Millions)		(Ratio)
Canada	692	0.9	5.9	3,749	1,172	2,577	3.2
France	14,672	13.0	33.3	52,829	626	52,203	84.4
Japan	9,751	7.5	7.7	33,196	993	32,203	33.4
United Kingdom	14,373	12.3	24.5	42,295	2,190	40,105	19.3
United States	10,244	4.2	8.0	26,441	4,274	22,167	6.2
West Germany	14,738	7.6	16.0	39,382	259	39,123	152.1
Others	9,266	-	-	37,625	226,003*	-188,378	0.2
Total	73,736	-	-	235,517	235,517	-	-

*The major recipient countries (46 per cent of all assistance) are in decreasing order of importance: the U.S.S.R., Algeria, Brazil, Poland, China, South Africa, South Korea, Iran, Argentina, and Yugoslavia.

1 New obligations include direct credits disbursed and guaranteed credits approved.

2 The potential market is defined as the market liable to receive government support. For all countries, all exports of raw materials have been excluded from the potential market, because they usually do not receive government support. In addition, all exports to countries forming the natural extension of the domestic market have also been excluded. For Canada, all transactions involving the United States have been excluded. For the United States, all transactions with Canada and Mexico have been excluded. For EEC countries, all transactions with other EEC countries have been excluded. For Japan, no exports to other countries have been excluded.

3 The balance of export credits includes guaranteed credits when the balance is related to the guaranteeing institution's conditional commitments, and direct export credits when the balance refers to disbursed amounts only.

SOURCE Data from the Organisation for Economic Co-operation and Development, estimates by the Economic Council of Canada.

Table D-4

Interest Rates for Public Export Credits and Publicly Guaranteed Credit, Selected OECD Countries, 1980 and 1981

	Loans			Loan guarantees			
				Interest rates on projects lasting more than 5 years			
	Typical effective average overall rates for maturities over 5 years mid-September 1981[1] (1)	Central government bonds, third quarter of 1981 (2)	Difference (3)=(1)-(2)	Financed in U.S. funds, 1980[2] (4)	Financed in national currency, 1980 (5)	Central government bonds, 1980 (6)	Difference between projects financed in national currency and government bonds (7)=(5)-(6)
	(Per cent)						
Canada	13.0	17.2	-4.2	..	..	..	..
France[3]	8.3	16.6	-8.3	8.4	7.6	13.0	-5.4
Japan	8.3	9.0	-0.7	7.7	8.3	9.2	-0.9
United Kingdom[3]	8.3	15.3	-6.9	7.8	8.0	13.8	-5.8
United States	13.2*	14.5	-1.2	8.8	8.8	11.4	-2.6
West Germany[3]	13.8	11.1	2.6	8.8	9.4	8.5	0.9

*Based on a prime rate of 20 per cent and a Libor rate (6 months) of 18.5 per cent. For over 5 years, an Eximbank participation of up to 65 per cent of the contract value or an Eximbank guarantee for a similar proportion is assumed.

**Canada is the only one among the six countries that does not publish interest rates on projects registered with the Berne Union.

1 Typical effective overall rates, where applicable, combine official and market rates, mid-September 1981. Insurance premiums, guarantee fees, and mixed credits are excluded. Floating rates are taken at current level, ignoring future changes in rates over the credit period. The consensus rates varied in 1981 between 7.75 per cent for relatively poor countries, 8.50 per cent for intermediate countries, and 8.75 per cent for relatively rich countries, producing an average rate of 8.33 per cent.

2 This rate was computed by weighting the interest rate for each project registered with the Berne Union by the total amount of credits approved for each project.

3 As members of the European Economic Community, these countries apply officially supported rates only for exports outside the EEC. For exports to other EEC countries "market" rates must be charged.

SOURCE Data from the Banker Research Unit and from the Organisation for Economic Co-operation and Development, and International Monetary Fund, *International Financial Statistics*, vol. XXXV, no. 1 (January 1982).

Table D-5

Estimated Implicit Subsidy and Subsidy Rates Based on Cost of Funds, Selected OECD Countries, 1976

	Implicit subsidy[1]	Subsidy as a proportion of manufacturing exports[2]
	(U.S. $ Millions)	(Per cent)
Canada	92	0.5
France	1,504	3.5
Japan	89	0.1
United Kingdom	871	2.3
United States	110	0.1
West Germany	340	0.4

1 Calculated as follows: ("commercial bank interest rate" - "typical export credit interest rate" as of November 1979) x balance of outstanding export credits (as of December 1977).

2 Calculated as follows: amount of subsidy ÷ total manufacturing exports (1976).

SOURCE International Marketing Policy Group, "Major Competitors' Export Incentives Program," 18 July 1980.

E The Impact of Export Credit Subsidies on the Economy

The effects of subsidized export credit on Canada's balance of trade and current account balance, on employment, on GNP, and on other macro-economic variables are discussed here.

For our purposes, it is assumed here that the subsidy offered by Canada applies to goods which are not subsidized abroad or that foreign countries do not retaliate to an increase in Canada's subsidy rate. It is also assumed that subsidies do not favour one Canadian exporter at the expense of another. In such a case, the immediate effect of an increase in Canada's export subsidies depends on the foreign demand for Canadian products. In this context, let us first consider the objective of improving the current account balance in order to secure foreign exchange reserves to pay for our imports and to reduce Canada's foreign debt.

An analysis of the long-run direct and indirect effects of export subsidies shows that $141 million of subsidies provided through export credit in 1977 contributed to an increase in the export of manufactured goods of $271 million.[1] At the same time, however, these subsidies only increased the balance of manufactured goods by $200 million, while the current account balance rose by only $35 million because of the effect of offsetting factors, such as an outflow of interest and dividends and an increase in imports. The value of the Canadian dollar in the foreign-exchange market only increased by 0.3 per cent. Thus, the cost of bringing about a rather modest improvement in Canada's trade and current account balances would appear relatively high. Indeed, if one divides the amount of subsidy given by the improvement in the current account balance, one finds that it costs $4 for every $1 gain and that this gain was not even received in cash because of the financing outstanding to the foreign buyer.

Alternative simulations with the CANDIDE 2.0 model permit an analysis of the impact of subsidized export credit over a shorter time period and under different hypotheses. The model was used to recreate, in a simplified way, the environment in which the Export Development Corporation (EDC) operates as well as its modus operandi, and to simulate the effect of a $1 billion (in 1971 dollars) increase in capital goods exports that is sustained over a period of seven years. These simulations have been made under two hypotheses that relate to the way a world trade equilibrium is attained.[2] The results obtained through this exercise are not forecasts; they are only indicative of the direction and the magnitude of the effects of an EDC-supported increase in exports.

The export credit subsidy improves the balance of trade and the current account balance under both hypotheses, independently of the financing method of the loan portion of the EDC assistance (Table E-1). The impact on the current account balance is larger when the EDC finances its loans on domestic markets. Under hypothesis II, the impact is smaller while the amount of subsidy is larger. In the most favourable case, a hypothetical subsidy of $491 million would cause a first-year improvement in the current account balance of $293 million. In the least favourable case, a subsidy of $628 million would have brought about an improvement in the current account balance of $93 million. The full effect on the balance of trade and the current account balance is not felt in the first year but over a prolonged period. Comparisons have thus been made over the whole simulation period of seven years. Over the seven years, a total subsidy of $4.5 billion would improve the current account balance by $9.5 billion. If one adds to the subsidy the cost of the resources used in the production of exports – which, for our purposes, are estimated to be equal to the value of exports – a total amount of $24.5 billion would be used. In other words, Canada would pay over $2 for each $1 in foreign currency obtained. Under the least favourable hypothesis (domestic financing), $25 billion would be disbursed to secure $5.7 billion in foreign currencies. Under this hypothesis, Canada would pay $4.35 in Canadian money to secure $1 of foreign currency – a rather

high price. The exact dollar values are of no importance. That it costs $5, $4.35, or $4 to acquire $1 of foreign currency is not at issue here. What is important is that the acquisition of foreign currency through subsidized export credit is an expensive proposition. On the other hand, the cost of subsidized export credit may not appear too high in relation to the foreign exchange secured, if part of the cost can be attributed to the pursuit of other objectives, such as the diversification of Canadian exports by country and by goods exported, and the matching of foreign competition.

Finally, let us turn to the job creation objective. Simulations conducted with the CANDIDE model show that export financing has relatively little effect on the unemployment rate. This is true, whatever the hypothesis considered and the method of funding the EDC loan. By comparison, an increase in government spending of an amount equal to the credit granted by the EDC to sustain new exports of capital goods of $1 billion (in 1971 dollars) has a somewhat larger effect on the unemployment rate. And the impact on employment is significantly higher in the case of an increase in government spending than in the case of an export subsidy. The effect on real domestic product is the same when government uses spending or export subsidies as policy instruments (Table E-2).

Table E-1

Simulated Impact of a $1 Billion (1971 Dollars) Increase in Canadian Exports Generated by an Export Development Corporation Subsidy, 1981-87

	1981	1982	1983	1984	1985	1986	1987
				(Millions of current dollars)			
Value of exports	2,331.0	2,476.2	2,645.0	2,802.3	3,024.8	3,244.4	3,487.3
New EDC loans	1,981.4	2,104.8	2,248.2	2,382.0	2,571.1	2,757.7	2,964.2
Hypothesis I: domestic financing							
– Subsidy	490.9	593.6	617.6	638.9	670.0	710.0	757.2
– Balance of trade	804.1	862.4	1,172.1	1,301.1	1,506.9	1,544.7	1,678.9
– Current account balance	292.6	744.0	1,195.9	1,461.5	1,785.1	1,897.0	2,081.2
				(Can. $ per U.S. $)			
– Exchange rate	0.006	0.003	-	-0.002	-0.003	-0.004	-0.006
Hypothesis I: foreign financing							
				(Millions of current dollars)			
– Subsidy	490.9	593.6	617.6	638.9	670.0	710.0	757.2
– Balance of trade	768.1	738.9	1,195.9	1,348.6	1,599.1	1,688.7	1,846.9
– Current account balance	251.4	237.2	762.0	934.3	1,221.0	1,321.6	1,505.5
				(Can. $ per U.S. $)			
– Exchange rate	-	-	-0.004	-0.005	-0.005	-0.005	-0.006
Hypothesis II: domestic financing							
				(Millions of current dollars)			
– Subsidy	628.3	643.9	684.3	706.4	746.3	786.9	826.0
– Balance of trade	713.8	657.6	871.2	866.6	909.4	767.7	685.1
– Current account balance	93.3	511.0	864.8	995.6	1,149.0	1,081.6	1,046.8
				(Can. $ per U.S. $)			
– Exchange rate	0.006	0.004	-	-0.001	-0.001	-0.002	-0.003

SOURCE: Estimates by the Economic Council of Canada, using the CANDIDE 2.0 model (deviations from the base case), December 1981.

Table E-2

Comparative Impact of Increased Export Assistance and Government Expenditures on Selected Indicators, Canada, 1987

	Increased export assistance ($1 billion at 1971 prices)				Increased government expenditures equivalent to the cost of export assistance	
	Hypothesis I		Hypothesis II			
	Domestic financing	Foreign financing	Domestic financing	Foreign financing	Hypothesis I	Hypothesis II
	(Millions of constant dollars)					
Gross national product	1,042.8	1,097.2	-72.1	894.4	1,055.8	1,037.3
	(Millions of current dollars)					
Corporate profits	-816.2	-2,358.4	-833.5	-2,137.6	3,231.2	3,045.4
	(Per cent)					
Unemployment rate	-0.1	-0.1	0.1	-0.1	-0.3	-0.3
	(Thousands)					
Total employment	42.1	38.4	-7.1	29.3	61.0	59.4

SOURCE Estimates by the Economic Council of Canada using the CANDIDE 2.0 model (deviations from the base case), December 1981

F Indexed Mortgages

The loan payment and amortization tables that follow illustrate some of the different methods of indexing loans fully and partially, as well as different scenarios involving varying degrees of risk that arise from different annual rates of increase in wages, property prices, and the general price level.

The advisability of indexation was suggested by the behaviour of home purchasers and vendors over the past few years. They have found it mutually advantageous to agree on low-interest loans without subsidy by adding the shortfalls in interest payments to the principals. This is essentially the same interest-reduction mechanism that is involved in indexation. When the market rate is, say, 17 per cent and a purchaser wants a $50,000 mortgage amortized over 25 years, a vendor can offer to take back either a mortgage on current terms or, for example, a 10 per cent, three-year mortgage of $59,106.09, if the purchaser is willing to offer $9,106.09 more for the property. The purchaser will consider the alternative because a 17 per cent loan on $50,000 requires a monthly payment of $696.26 for principal and interest, whereas a 10 per cent loan on $59,106.09 means a monthly payment of $528.70. The balances due in three years are $49,456.44 and $57,185.69, respectively. When added to the 10 per cent income from his loan, the additional principal amount due in three years provides the vendor with a return of 17 per cent. A $59,106.09 three-year mortgage at 10 per cent is discounted to $50,000 when the secondary market demands 17 per cent yields. Thus the vendor seems to gain nothing, and the borrower does not lose by accepting the vendor's offer. Both can gain, however. The purchaser has easier access to the house because of the lower monthly payments. For the vendor – if he does not discount the mortgage but holds it to maturity – the additional $9,106.09 in the selling price of his house is treated as a capital gain, which most vendors can take tax-free.

Table F-1 permits a comparison of standard mortgages under conditions of price stability and inflation. It is assumed that a household with a $25,000 income purchases a $60,000 home with a $51,000 mortgage loan and a 15 per cent down-payment. Annual property taxes are set at $1,000. This tax and the value of the property are assumed to be constant *in real terms* over a 25-year amortization period. The owner's income is assumed to increase annually by 2 per cent in real terms. At a real rate of interest of 7 per cent and with no inflation, the initial gross debt service (GDS) ratio, including property taxes, is under 21 per cent, and the owner has a 50 per cent equity in the house in about 15 years. If 10 per cent inflation is assumed, the standard mortgage rate rises to 17.7 per cent: 7 per cent for real interest cost, plus 10 per cent for inflationary depreciation of the money on loan, plus 0.7 per cent for depreciation of the interest payment. The initial GDS ratio is over 35 per cent but falls to 4.4 per cent over the lifetime of the mortgage, as a result of the effect of inflation on the borrower's income. At the same time, the money price of the property increases as a consequence of inflation, with the result that the homeowner acquires a 50 per cent equity interest in his property in only 5 years instead of 15, more than tripling his original investment. This accelerated house purchase or equity build-up is an unnecessary barrier to home ownership. It has been shown to have negative effects on construction and house prices.[1] A 1 per cent increase in the annual rate of anticipated inflation reduces aggregate housing demand by about 4 to 5 per cent. According to another estimate, if a purchaser were offered an indexed morgage loan, he could increase his demand for housing by 8 per cent.

The negative effects of an unusually fast equity build-up can be avoided by a different design of the mortgage terms. Table F-1 shows the monthly payments, gross debt service ratio, and borrower equity that would result from charging 7 per cent interest on a capital indexed at 10 per cent. The increase in the unpaid loan amount resulting from indexation represents the unamortized deferred interest that is due in addition to the 7 per cent. Monthly payments increase over time, as they are a constant percentage of a capital increased by

deferred interest. The payments are calculated as they would be in the case of a graduated payment mortgage with 10 per cent annual graduation over 25 years. The result is to reproduce very nearly the situation that would prevail under price stability in terms of the gross debt service and equity ratios.

The figures in Tables F-1 and F-2 are meant to be illustrative of indexation and of the effect of inflation on mortgages. These illustrations are, however, very hypothetical, as a long-term inflation rate cannot be known with certainty, and long-term, fixed-rate loans are no longer available.

Regarding farm loans, it has been argued in Chapter 6 that in inflationary times the cash rent of farm land cannot rise to the level of nominal interest rates. The cash rent can, however, be expected to increase in line with rising land values. An indexed farm mortgage makes it possible to match rising mortgage payments with the rising stream of cash rents, whereas a standard fixed-payment mortgage causes cash-flow problems on account of the initial excess of mortgage payments over the cash rents received. Land values and rents can, however, be more volatile than the general level of prices to which mortgage payments may be indexed. This raises the possibility that the cash yield of land will at times be insufficient to meet indexed payments and that the unpaid balance of the loan will exceed the value of the mortgaged land. Accordingly, the cash flow from land encumbered alternatively by standard and indexed mortgages has been simulated, assuming that the rent of land is correlated with the general price level but fluctuates within a broader band. The result of one such simulation is shown in Table F-2. Indexation results in fewer and smaller negative cash flows; as can be verified on the basis of the figures supplied, the unpaid balance of the indexed loan at no time exceeds the current value of the land. The present value of the cash flow is greater with than without indexation. The difference represents an increase in the borrower's equity or a gain to the farmer.

Tables F-3 and F-4 illustrate scenarios that involve varying degrees of residential mortgage risk that arise from different rates of increase in wages, prices, and property values. In both cases there is a base rate of inflation expected for the term of the loan. The examples in these tables differ from that in Table F-1, in that future inflation is not assumed to be known with certainty, and from that in Table F-2, in that the interaction of taxation and inflation on interest rates is considered explicitly. The actual rate to which the loan is indexed was made to vary from year to year in unpredictable ways, but not so unpredictably as to break outside predetermined bounds. The borrower's wages and real estate prices are also correlated with the CPI, but not from year to year and not very closely. Without this correlation, indexing to the CPI would not work. Several indices would have to be used simultaneously in the manner discussed below. The master scenario from which these illustrations were generated permits variation in all the items listed as assumptions and for different income-tax treatment of indexed loans. In every case, indexation makes housing (or farming, or any other loan-financed activity) more affordable by reducing the initial GDS ratio. The rate of equity build-up is seldom slower than in the no-inflation case shown in Table F-1. The fixed monthly payment for that case, however, is no longer shown, as the realistic alternative to indexing when inflation is uncertain is short-term borrowing with varying loan payments. In virtually every simulated case, the borrower gained by indexation, often substantially. His gain is the present value of the difference in monthly payments with and without indexation, discounted annually. The inflation adjustment is made with an average six-month delay. The loan balance outstanding is adjusted to inflation on each anniversary of the loan, and the monthly payments due during the next year are calculated to pay for principal and interest on the loan at its last anniversary, with interest compounded semi-annually and paid not in advance. Thus monthly payments are fixed for the year, until the next anniversary. The lagged application of the index – which is administratively convenient to the lender – is a source of gain to the borrower.

In the case of Table F-3, there is a long-run average rate of inflation of 5.2 per cent, ranging from 0 to 10 per cent. Wages and real estate prices rise sometimes faster, and sometimes slower, than this. A series of five-year loans can be arranged, with principal and interest payments of $604 to $805 per month, and starting with an initial GDS ratio of 34 per cent. A loan fully indexed to the lagged rate of inflation would carry a rate of interest of 10.4 per cent, so that the initial GDS ratio would be only 25 per cent, enabling more borrowers to qualify for loans. The average yield of the series of five-year loans is 16.1 per cent. Discounting at this rate, the borrower's gain from indexation is $2,660. That is the size of the grant he would have to be given in order to make him prefer standard mortgages over the indexed one. In the computation of the above figures it was assumed that contingent interest is taxable on accrual, and that tax-exempt lenders demand the same interest and inflation adjustment rates that would be set by taxable lenders of indexed funds.

If there is doubt that the income of a borrower will rise with inflation, the effect of indexation could be

limited to, say, one-half of the inflation rate, as in Table F-4. In the case of Table F-4, inflation is 3.5 per cent, with random fluctuations between −3 and + 11 per cent. Because of the lower rate of inflation, the average rate of interest on a series of five-year loans is 13.3 per cent, ranging from 10.8 to 16.2 per cent, depending on how bad inflation happens to be in any one of the five-year periods. A partially indexed loan can be arranged at only 11.4 per cent interest, with an average indexing factor of 1.7 per cent. With such a loan, the initial GDS ratio falls to 25 per cent from the 31 per cent that it would have been with a standard mortgage. The more comfortable schedule of monthly payments also entails a gain to the borrower of $4,717 when discounting at 13.3 per cent.

This partial indexation can be valuable as an additional financing option that increases the range of opportunity. Since it requires that borrowers and lenders speculate about future inflation rates, however, partial indexation is unlikely to help in the restoration of long-term debt markets. A long-term indexed first mortgage combined with a series of short-term standard second mortgages would produce results similar to those of partial indexation, while opening a wider door to long-term finance. Nor is partial indexation the best response to the fear of borrower insolvency. That fear will be allayed more fully by linking the debt to the wage rate in the borrower's occupation and not to a general price index. This naturally leads to the question of the choice of an appropriate index to link indexed debt to the purchasing power of money.

The choice of an index has consequences for public policy and for the acceptance of indexation on the part of borrowers and lenders. In every case, the index should be easily verifiable, and one that can be tracked throughout the term of the loan, preferably

Table F-1

Comparison of Standard and Indexed Residential Mortgages[1]

	Standard mortgage												
	No inflation; 7% interest				10% inflation; 17.7% interest				Fully indexed mortgage: 7% interest on capital indexed at 10%				
Year	PIT	GDS	Loan balance	Equity	PIT	GDS	Loan balance	Equity	PIT	GDS	Loan balance	House value	Equity
	(Dollars)	(Per cent)	(Dollars)	(Per cent)	(Dollars)	(Per cent)	(Dollars)	(Per cent)	(Dollars)	(Per cent)	(Dollars)	(Dollars)	(Per cent)
1	441	20.7	50,208	16.3	828	35.4	50,862	22.9	449	19.2	55,229	66,000	16.3
2	441	20.3	49,359	17.7	837	31.9	50,699	30.2	494	18.8	59,724	72,600	17.7
3	441	19.9	48,450	19.3	847	28.8	50,506	36.8	543	18.5	64,487	79,860	19.3
4	441	19.5	47,476	20.9	859	26.0	50,276	42.8	597	18.1	69,510	87,846	20.9
5	441	19.2	46,433	22.6	871	23.5	50,005	48.3	657	17.7	74,780	96,631	22.6
6	441	18.8	45,315	24.5	884	21.3	49,683	53.3	723	17.4	80,279	106,294	24.5
7	441	18.4	44,118	26.5	899	19.3	49,302	57.8	795	17.1	85,974	116,923	26.5
8	441	18.0	42,836	28.6	915	17.5	48,850	62.0	875	16.7	91,822	128,615	28.6
9	441	17.7	41,462	30.9	933	15.9	48,315	65.8	962	16.4	97,765	141,477	30.9
10	441	17.3	39,990	33.3	953	14.5	47,681	69.4	1,058	16.1	103,724	155,625	33.3
11	441	17.0	38,414	36.0	974	13.2	46,930	72.6	1,164	15.8	109,000	171,187	36.0
12	441	16.7	36,725	38.8	998	12.0	46,040	75.6	1,281	15.4	115,259	188,306	38.8
13	441	16.3	34,916	41.8	1,024	11.0	44,985	78.3	1,409	15.1	120,540	207,136	41.8
14	441	16.0	32,978	45.0	1,053	10.1	43,735	80.8	1,550	14.8	125,235	227,850	45.0
15	441	15.7	30,902	48.5	1,085	9.3	42,255	83.1	1,705	14.6	129,087	250,635	48.5
16	441	15.4	28,679	52.2	1,119	8.5	40,501	85.3	1,875	14.3	131,777	275,698	52.2
17	441	15.1	26,297	56.2	1,158	7.9	38,422	87.3	2,063	14.0	132,915	303,268	56.2
18	441	14.8	23,745	60.4	1,200	7.3	35,959	89.2	2,269	13.7	132,019	333,595	60.4
19	441	14.5	21,011	65.0	1,246	6.7	33,042	91.0	2,496	13.4	128,502	366,955	65.0
20	441	14.2	18,083	69.9	1,297	6.2	29,565	92.7	2,745	13.2	121,653	403,650	69.9
21	441	14.0	14,946	75.1	1,353	5.8	25,489	94.3	3,020	12.9	110,605	444,015	75.1
22	441	13.7	11,586	80.7	1,415	5.4	20,635	95.8	3,322	12.7	94,313	488,417	80.7
23	441	13.4	7,987	86.7	1,483	5.0	14,885	97.2	3,654	12.4	71,513	537,258	86.7
24	441	13.1	4,131	93.1	1,557	4.7	8,072	98.6	4,019	12.2	40,685	590,984	93.1
25	441	12.9	-	100.0	1,639	4.4	-	100.0	4,421	11.9	-	650,083	100.0

1 PIT is the monthly payment for principal, interest, and property taxes; GDS is the gross debt service ratio. These figures are based on the following assumptions: purchase price, $60,000; loan amount, $51,000; borrower's initial income, $25,000 per year; annual rate of real income growth, 2 per cent; initial property taxes, $1,000.

SOURCE Economic Council of Canada.

20 years and more. From the points of view of public policy and of the lender, the index must be a very broad one, such as the CPI or the implicit GNP deflator. These are broad aggregates that the monetary and fiscal authorities seek to stabilize, and they correspond to the general purchasing power that a lender wants to preserve for his future use.[2] Borrowers, however, prefer that their debt be linked to prices or wages that directly determine their income and ability to pay.[3]

The intermediation between mortgage lenders and borrowers who wish to use different price indices could be done by a revived Federal Mortgage Exchange Corporation (FMEC), or by any other specialized institution. The FMEC could, for example, sell CPI-linked bonds to buy wage-linked mortgages. This would enable borrowers to make mortgage payments linked to an index of wages paid to members of their different professions; since in the long term average wages fluctuate in line with the CPI, the FMEC can make its CPI-linked payments. These payments would flow to the originators of wage-linked mortgage loans and enable them to pay CPI-linked interest on deposits or pension fund contributions.[4]

The borrowers' gains from indexation are only illustrative. The true gains may be larger, since the interest rates may be lower than shown. For example, the real rates of interest on indexed residential mortgage loans recently made in the United States were 4.5 and 4.75 per cent per year, although contingent interest appears to be fully taxable in that country.[5]

Table F-2

Comparison of Standard and Indexed Farm Mortgages, with Random Inflation and Relative Price Changes[1]

Year	Rate of Inflation		Standard mortgage		Indexed mortgage		Cash flow		
							Before mortgage payments	After mortgage	
	CPI	Land	Monthly payment	Balance unpaid	Monthly payment	Balance unpaid		Standard	Indexed
	(Per cent)		(Dollars)						
1	9	5	1,947	199,152	841	213,434	11,813	-11,549	1,718
2	9	10	1,947	198,203	917	227,517	12,994	-10,367	1,991
3	9	7	1,947	197,141	999	242,236	13,903	-9,458	1,910
4	9	6	1,947	195,953	1,089	257,572	14,738	-8,624	1,665
5	5	-2	1,947	194,624	1,187	263,458	14,443	-8,918	193
6	7	5	1,947	193,137	1,247	274,191	15,165	-8,196	203
7	9	4	1,947	191,473	1,334	290,211	15,772	-7,590	-238
8	12	8	1,947	189,612	1,454	315,047	17,033	-6,328	-417
9	6	11	1,947	187,530	1,627	323,042	18,907	-4,454	-637
10	9	16	1,947	185,200	1,726	339,867	21,932	-1,429	1,215
11	4	6	1,947	182,593	1,882	340,337	23,248	-113	667
12	10	9	1,947	179,677	1,957	359,498	25,340	1,979	1,856
13	10	16	1,947	176,415	2,153	378,593	29,395	6,034	3,562
14	10	14	1,947	172,764	2,368	397,351	33,510	10,149	5,094
15	6	3	1,947	168,681	2,605	400,334	34,515	11,154	3,257
16	11	10	1,947	164,112	2,761	420,517	37,967	14,606	4,833
17	4	5	1,947	159,000	3,065	411,781	39,865	16,504	3,087
18	4	6	1,947	153,281	3,187	400,870	42,257	18,896	4,008
19	9	2	1,947	146,883	3,315	406,199	43,102	19,741	3,323
20	4	-2	1,947	139,725	3,613	389,502	42,240	18,879	-1,119
21	12	18	1,947	131,716	3,758	398,228	49,843	26,482	4,750
22	12	11	1,947	122,756	4,209	402,153	55,326	31,965	4,821
23	5	8	1,947	112,732	4,714	374,812	59,752	36,391	3,187
24	11	17	1,947	101,516	4,949	361,783	69,910	46,549	10,516
25	12	8	1,947	88,969	5,494	342,590	75,503	52,142	9,576
26	10	15	1,947	74,931	6,153	305,899	86,828	63,467	12,990
27	5	1	1,947	59,225	6,769	244,446	87,696	64,335	6,474
28	6	13	1,947	41,653	7,107	175,301	99,097	75,736	13,814
29	6	7	1,947	21,994	7,533	94,293	106,034	82,673	15,633
30	7	4	1,947	-	7,985	-	110,275	86,914	14,450
Mean	8	7	...	...	...	...	...	...	...
Present value	...	...	...	...	...	...	197,232	2,533	16,671

1 This simulation is based on the following assumptions: loan amount, $200,000; real rate of interest, 0.03 per cent rate of return to land, 0.045; a mortization period, 30 years; loan to value ratio, 0.8; base rate of inflation, 8 per cent; range of change in index, between +4 and -4%; range of change in monetary return to land, between +7 and -7%; nominal rate of interest, 0.12 per cent.

SOURCE Economic Council of Canada.

Table F-3

Comparison of Standard and Indexed Mortgages, with Random Changes in Inflation[1]: Full Indexation without Tax Relief

Year	Rate of inflation			Standard 5-year mortgage[2]				Indexed mortgage: 10.4% interest on capital indexed at 5.2 per cent[3]				
	CPI	Wages	RE	PI	GDS	Loan balance	Equity	PI	GDS	Loan balance	House value	Equity
	(Per cent)			(Dollars)	(Per cent)	(Dollars)	(Per cent)	(Dollars)	(Per cent)	(Dollars)	(Dollars)	(Per cent)
1	0	2	-4	644	33.6	50,789	11.8	469	25.5	50,529	57,600	12.3
2	10	8	7	644	30.8	50,545	18.0	469	23.5	55.008	61,632	10.8
3	10	9	9	644	28.1	50,262	25.2	516	23.2	59,811	67,179	11.0
4	2	4	3	644	26.5	49,935	27.8	567	23.8	60,220	69,194	13.0
5	1	-1	0	644	26.3	49,556	28.4	579	24.0	59,943	69,194	13.4
6	7	8	6	805	29.2	49,315	32.8	584	22.2	63,097	73,346	14.0
7	7	8	5	805	26.8	49,023	36.3	625	21.6	66,281	77,013	13.9
8	8	7	11	805	24.8	48,672	43.1	669	21.2	70,110	85,485	18.0
9	3	5	-1	805	23.2	48,246	43.0	723	21.2	70,534	84,630	16.7
10	10	12	9	805	20.6	47,733	48.3	744	19.3	75,544	92,247	18.1
11	2	1	4	604	15.9	46,628	51.4	819	20.4	74,749	95,936	22.1
12	0	1	1	604	15.4	45,370	53.2	835	20.1	72,198	96,896	25.5
13	4	2	6	604	14.9	43,939	57.2	835	19.4	72,151	102,709	29.8
14	9	8	7	604	13.8	42,310	61.5	869	18.5	75,105	109,899	31.7
15	4	2	2	604	13.4	40,455	63.9	947	19.2	74,036	112,097	34.0
16	4	3	2	621	13.1	38,425	66.4	985	19.0	72,312	114,339	36.8
17	2	0	6	621	12.9	36,098	70.2	1,024	19.4	68,470	121,199	43.5
18	8	7	10	621	12.0	33,431	74.9	1,044	18.3	67,628	133,319	49.3
19	1	0	-3	621	11.8	30,735	76.5	1,128	19.1	61,244	129,320	52.6
20	6	8	10	621	10.9	26,871	81.1	1,139	17.7	56,639	142,252	60.2
21	9	10	6	685	10.7	23,245	84.6	1,208	16.8	51,751	150,787	65.7
22	6	7	10	685	9.9	18,901	88.6	1,316	16.7	43,146	165,865	74.0
23	4	6	0	685	9.3	13,698	91.7	1,395	16.3	31,398	165,865	81.1
24	8	6	5	685	8.8	7,465	95.7	1,451	15.8	17,811	174,159	89.8
25	6	4	2	685	8.4	-	100.0	1,567	16.0	-	177,642	100.0
Mean	5	5	4	...	...	...	...	...	...	...	...	...

1 PI is the monthly payment for principal and interest; GDS is the gross debt service ratio; equity is in percentage of the house value; CPI is the consumer price index; RE is the index of real estate prices. The following assumptions are used: purchase price, $60,000; loan amount, $51,000; borrower's initial income, $25,000 per year; initial property taxes, $1,000; real rate of interest, 2.5 per cent; base rate of inflation, 5 per cent. Ranges of random changes: prices and taxes, 5 points around the base rate; wages, 2 points around inflation; property value, 4 points around inflation; and real rate of growth of wages, 2 per cent per year.

2 The interest rates on the five-year loans are 15.2, 19.8, 13.4, 14.1, and 18.9 per cent.

3 Indexing is at 100 per cent. The borrower's gain from indexing is $2,660 in present value, at 16.1 per cent per year. At that rate, the present value of receipts from income tax on interest payments (including inflation adjustment if and when indexing) is $22,640 in the case of standard mortgages and $27,270 in the case of indexed lending, when the tax rate is 50 per cent.

SOURCE Economic Council of Canada.

Table F-4

Comparison of Standard and Indexed Mortgages, with Random Changes in Inflation[1]: Partial Indexation without Tax Relief

Year	Rate of inflation			Standard 5-year mortgage[2]				Indexed mortgage: 11.4% interest on capital indexed at 1.7 per cent[3]				
	CPI	Wages	RE	PI	GDS	Loan balance	Equity	PI	GDS	Loan balance	House value	Equity
	(Per cent)			(Dollars)	(Per cent)	(Dollars)	(Per cent)	(Dollars)	(Per cent)	(Dollars)	(Dollars)	(Per cent)
1	11	13	12	639	30.8	50,784	24.4	505	25.1	53,384	67,200	20.6
2	1	4	2	639	29.3	50,534	26.3	533	25.1	53,178	68,544	22.4
3	11	9	10	639	27.0	50,246	33.4	535	23.2	55,545	75,398	26.3
4	-3	-2	-2	639	27.2	49,912	32.5	565	24.4	54,099	73,890	26.8
5	1	-1	-3	639	27.2	49,525	30.9	556	24.2	53,681	71,674	25.1
6	11	13	7	679	25.5	49,140	35.9	559	21.6	55,822	76,691	27.2
7	3	4	5	679	24.4	48,691	39.5	590	21.6	55,738	80,525	30.8
8	-3	-1	-5	679	24.3	48,165	37.0	599	21.8	53,889	76,499	29.6
9	3	6	5	679	22.8	47,550	40.8	590	20.2	53,549	80,324	33.3
10	10	7	13	679	21.4	46,831	48.4	599	19.2	54,879	90,766	39.5
11	6	5	3	650	19.6	45,915	50.9	628	19.1	54,975	93,489	41.2
12	-1	0	-3	650	19.4	44,855	50.5	647	19.3	52,977	90,685	41.6
13	8	11	11	650	17.5	43,625	56.7	644	17.4	53,093	100,660	47.3
14	0	2	-3	650	17.0	42,201	56.8	670	17.4	50,856	97,640	47.9
15	9	8	7	650	15.9	40,550	61.2	670	16.2	50,532	104,475	51.6
16	2	0	0	555	13.9	38,170	63.5	670	16.7	48,090	104,475	54.0
17	1	3	2	555	13.4	35,519	66.7	707	16.2	45,020	106,564	57.8
18	-3	0	0	555	13.2	32,566	69.4	711	16.1	40,703	106,564	61.8
19	7	9	8	555	12.2	29,277	74.6	700	14.6	37,916	115,090	67.1
20	5	7	6	555	11.4	25,613	79.0	724	14.0	34,041	121,995	72.1
21	10	12	8	551	10.3	21,504	83.7	742	12.9	30,086	131,754	77.2
22	1	0	-1	551	10.2	16,941	87.0	780	13.3	23,884	130,437	81.7
23	-1	0	-5	551	10.0	11,875	90.4	783	13.2	16,703	123,915	86.5
24	1	2	5	551	9.8	6,248	95.2	780	12.8	8,858	130,111	93.2
25	0	1	4	551	9.6	-	100.0	783	12.6	-	135,315	100.0
Mean	3	4	3	...	...	...	...	...	...	...	...	...

1 PI is the monthly payment for principal and interest; GDS is the gross debt service ratio; equity is in percentage of the house value; CPI is the consumer price index; RE is the index of real estate prices. The following assumptions are used: purchase price, $60,000; loan amount, $51,000; borrower's initial income, $25,000 per year; initial property taxes, $1,000; real rate of interest, 2.75 per cent; base rate of inflation, 4 per cent; ranges of random changes: prices and taxes, 7 points around the base rate; wages, 3 points around inflation; property value, 4 points around inflation; and real rate of growth of wages, 1 per cent per year.

2 The interest rates on the five-year loans are 15.1, 16.3, 15.3, 11.1 and 10.8 per cent.

3 Indexing is at 50 per cent. The borrower's gain from indexing is $4,717 in present value, at 13.3 per cent per year. At that rate, the present value of receipts from income tax on interest payments (including inflation adjustment if and when indexing) is $24,502 in the case of standard mortgages and $24,523 in the case of indexed lending, when the tax rate is 50 per cent.

SOURCE Economic Council of Canada.

Notes

CHAPTER 1

1 The Economic Council has already published a report on banks and deposit-taking institutions; see Economic Council of Canada, *Efficiency and Regulation: A Study of Deposit Institutions* (Ottawa: Supply and Services Canada, 1976).

2 Recent federal attempts in the autumn of 1981 to persuade the banks to show leniency towards hard-pressed farmers and homeowners are one example of moral suasion.

3 Throughout the report we have attempted to use the most recent data available. In our evaluation of the extent of government loans and guarantees, we were not able to go beyond fiscal 1979/80. In other cases, we had to do the analysis on the basis of 1978/79 and earlier data.

4 Financial transactions between different levels of government have been omitted to avoid double counting and to concentrate on government financing of the private sector. For instance, the Canada Mortgage and Housing Corporation lends funds to homeowners as well as to provincial housing agencies, which in turn also make homeowner loans. We count only these and not the loans to the provincial agencies.

5 In strict accounting theory, loans and guarantees cannot be added, since the first are an asset and the second are a contingent liability. To determine the total amount of assistance provided by government and how this assistance is distributed among the various sectors of the economy, however, loans and guarantees have been added anyway. This operation can be justified if one accepts loans and guarantees outstanding as the maximum amount that the government would have to disburse if all borrowers were to default.

6 A Crown corporation is an organization with a separate legal status and some autonomy from the government. A board is an administrative structure, usually within a department, that publishes an official account of operations.

7 Some essays in this direction include E. J. Doak, "Financial Intermediation by Government: Theory and Canadian Experience Since 1867" (Ph.D. diss., University of Toronto, 1972); G. Thiessen, "Federal Government Lending as an Instrument for Economic Policy in Canada, 1954-64" (Ph.D. diss., London School of Economics, May 1972); and J. Pesando and L. Smith, *Government in Canadian Capital Markets: Selected Cases* (Montreal: C. D. Howe Institute, 1978). The recent study on savings published by the Quebec government also views the government as an agent influencing the distribution of financial resources; see *L'épargne : Rapport du groupe de travail sur l'épargne au Québec* (Quebec: Éditeur officiel du Québec, 1980).

The United States is somewhat further ahead in this area. Since 1962, legislators have continued to show considerable interest in these issues and have periodically commissioned studies and reports. See *Federal Credit Subsidies* and *Federal Credit Programs*, research studies prepared for the Commission on Money and Credit (Washington D.C.: G.P.O. 1963). See also *The Economics of Federal Subsidy Programs* (Washington, D.C.: G.P.O., 1972); D. Larkins, *Three Hundred Billions in Loans: An Introduction to Federal Credit Programs* (Washington, D.C.: American Enterprise Institute, 1972); M. Weidenbaum, *Subsidies in Federal Credit Programs* (Washington, D.C.: American Enterprise Institute, 1972); and George F. Break, *The Economic Impact of Federal Loan Insurance* (Washington, D.C.: National Planning Association, 1961).

CHAPTER 2

1 The phenomena of implicit regulation and adverse selection could lead a rational financial institution to charge interest rates that would not lead to a balance between supply and demand and to resort to quantitative credit rationing.

2 Traditional theories of finance assume that information is freely available to all agents. Recent studies show that, in practice, financial market failures can be caused by problems in collecting information.

3 Specifically, there is an externality at the production level when the producer of one good that is used in the production of another good is unable to reap the benefits of his work through the free play of market forces. There is an externality at the consumption level when the consumption or production of one good enters the consumption function of another good, so that the producer of the former is again unable to secure all of the benefits. It is important to note that externalities can both confer benefits and impose costs. The production of goods by one individual, for example, can impose costs on another individual, who cannot then obtain compensation through the free interaction of market forces.

4 This section is based largely on D. Usher, "The Benefits and Cost of Firm-Specific Investment Grants: A Study of Five Federal Programmes," a paper prepared for the Economic Council of Canada, June 1982.

5 Such a situation may occur if a public agency finds that the victims of a credit gap are few. Its portfolio will then be correspondingly small and will not allow much risk diversification.

6 One researcher has suggested that the choice between a loan and a guarantee be based on the relative efficiency of the private and public sectors in issuing a loan and administering a guarantee on that loan. See J. Fried, "A Theoretical Analysis of Government Financial Intermediation: The Effects of Government Guarantees and Direct Loan Programs," a paper prepared for the Economic Council of Canada, October 1980.

7 See H. H. Binhammer, G. Lepore, and L. C. McDonough, "Government Grants to Private Sector Firms," a paper prepared for the Economic Council of Canada, December 1980.

8 See W. G. Baumol, "Informed Judgement, Rigorous Theory and Public Policy," *The Southern Economic Journal* 23, no. 2 (October 1965):137-44.

CHAPTER 3

1 See H. Aitken, "Defensive Expansion: The State and Economic Growth in Canada," in *Approaches to Canadian Economic History*, ed. W. T. Easterbrook and M. H. Watkins (Toronto: McClelland and Stewart, 1967).

2 The changes to the legislation were aimed primarily at the choice of instruments and at broadening the conditions for eligibility. For example, the Saskatchewan Economic Development Corporation's authority to grant loans to finance share acquisitions was withdrawn in 1967, and its authority to award capital grants, in 1973. The conditions of guaranteed loans under the Small Businesses Loans Act were amended several times, and in 1978 the fixed interest rate charged by banks was replaced by a fluctuating rate equal to the prime rate plus 1 per cent. Assistance from the Industrial Development Bank was originally limited to the manufacturing industry but was made available to other sectors in 1956 and 1961.

3 For the Federal Business Development Bank, assistance to small business firms is actually a secondary objective:

> 1) "The objectives of the Corporation are to promote and assist in the establishment and development of business enterprises in Canada by providing, in the manner and to the extent authorized by this Act, financial assistance, management counselling, management training, information and advice and such other services as are ancillary or incidental to any of the foregoing.
>
> 2) The Corporation in carrying out its objectives shall give particular consideration to the needs of small business enterprises."

4 The distribution of the total assets of corporations operating in Canada is uneven. In fact, 72 per cent of firms are small businesses with assets of less than $250,000, but they control only 6 per cent of all corporate assets. Some large firms occasionally administer a large share of the resources invested in a given industry. One example is the transportation equipment industry, where firms with assets of over $25 million represent only 4 per cent of all corporations in this industry but control 84 per cent of the total assets.

The data are drawn from Statistics Canada's financial statistics on corporations. Detailed information is available on corporations only. Financial institutions, utilities, and Crown corporations have not been taken into account because of the specific nature of their problems and methods of operation. The analysis was made with data for the years 1975 to 1977 and checked with 1978 data. The data for 1977 were chosen as representative and suitable for tabular presentation in this chapter. See Jean-Marie Gagnon and Benoit M. Papillon, "Canadian Firms as Seen Through their Financial Statements," a paper prepared for the Economic Council of Canada, 1982.

5 See Economic Council of Canada, *Efficiency and Regulation: A Study of Deposit Institutions* (Ottawa: Supply and Services Canada, 1976).

6 J. Mintz, *The Measure of Rates of Return in Canadian Banking*, Economic Council of Canada (Ottawa: Supply and Services Canada, 1978).

7 An explanation of the traditional analysis will be found in James C. Van Horne, Cecile R. Dipchand, and J. Robert Hanrahan, *Fundamentals of Financial Management* (Scarborough, Ont.: Prentice Hall, 1975); and in Jacques Saint-Pierre, *Précis de finance* (Chicoutimi: Gaétan Morin, Éditeur, 1980). The interpretation given in these two books is disputed by Merton H. Miller, in "Debt and Taxes," *The Journal of Finance* 32, no. 2 (May 1977):261-76.

8 For example, if one assumes that both interest rates are equal, that all profits are paid out in dividends, and that the company's rate of taxation is less than 30 per cent, then from a taxation viewpoint, personal borrowing will always be preferable to company borrowing. If, however, one assumes that all profits are reinvested and that the rate of corporate income tax is higher than 50 per cent, the burden of taxation is reduced by corporate borrowing. Between these extremes lie intermediate cases where personal and corporate borrowing can each be more advantageous at one time or another.

9 Financial institutions may deduct from their taxable income an amount equal to 1.5 per cent of the first $2 billion and to 1 per cent of any excess over $2 billion in qualifying loans and securities held. The total deduction is limited to the previous year's deduction plus one-third of the deduction in respect of qualifying loans and securities held in the current year. Also, the deduction made from the previous year's income must

be included in the current year's income. The deduction is thus primarily related to loan volume and not to risk. Risk is a factor in the definition of qualifying securities. Mortgages under the National Housing Act are specifically excluded from the loans that qualify for a deduction for bad debts. Other low-risk loans qualify the lender for deductions, but because the deduction must be added to the following year's income the advantage exists only so long as the dollar volume of loans increases or at least remains equal from one year to the next.

10 Of course, the purpose of the tax credit for losses is not to provide businesses with a source of financing but to treat profits and losses symmetrically.

11 Until recently, the small-business deduction in corporate income taxation caused some distortion of financial choices: some firms had to pay dividends to remain eligible for this reduction. The Finance Minister eliminated this anomaly in the November 1981 budget.

12 See Gagnon and Papillon, "Canadian Firms."

13 The Toronto Stock Exchange has reduced requirements for the listing of "junior industrial" stocks.

14 Roger Héroux, "Le financement par une nouvelle émission d'actions," *C. A. Magazine* 113, no. 1 (January 1980):51-56. See also D. Shaw, "The Allocation Efficiency of Canada's Market for New Equity Issues," *The Canadian Journal of Economics* II, no. 4 (November 1969):546-56.

15 The high cost of new issues appears to be a problem common to several industrialized countries. See Richard Brealy and Stewart Myers, *Principles of Corporate Finance* (Toronto: McGraw-Hill, 1981), p. 738.

16 An initial offering is that of a firm selling shares on the public market for the first time.

17 The Canada Consulting Group, Inc., "A Comparison of the Size of New Equity Issues in Canada and the United States," a paper prepared for the Economic Council of Canada, 1982.

18 "Agency costs" are those resulting from changes in the behaviour of the owner-manager of a firm who resorts to outside financing. This operation transfers part of the control over the firm to its creditors, making the owner their "agent." As the proportion of capital that he does not own directly increases, he tends to change his attitude towards risk and nonproductive costs. At the extreme, if all of a corporation's capital is obtained from outside sources, the manager could undertake projects whose risks are quite high. This is why many employment contracts link the manager's remuneration to the firm's profit and include share-purchase options. The same applies to expenditures related to his consumption rather than his productive activity, which are partially paid for by the outside shareholders. These shareholders will take into account the changes in behaviour attributable to their presence, and the market value of the firm will decrease. This loss in value is an implicit cost to the owner of the firm when turning to outside capital.

19 The Canadian Federation of Independent Businesses conducted a survey of its members in co-operation with the Economic Council of Canada; 14,000 firms, or about 25 per cent of total membership, completed the questionnaire. Only statistically significant results are reported here.

20 J. P. LeGoff and B. Rosenfeld, "Les réactions d'entrepreneurs canadiens à divers programmes d'aide à l'investissement," Economic Council of Canada Discussion Paper 153, December 1980.

21 This survey, conducted through an auditing firm, covered public institutions accounting for more than 80 per cent of the loans extended to business firms by all of these institutions.

22 This is the definition applied by the federal government. Quebec's Ministère de l'Industrie et du commerce defines small and medium-sized businesses as firms with assets of less than $5 million in the manufacturing sector and $6 million in the service sector.

23 It should be pointed out, however, that any change to the present tax laws must obviously be planned in the general context of taxation in Canada and not solely in terms of its effect on business finance.

24 In the past, the Industrial Development Bank purchased shares but used its vote only in exceptional circumstances.

25 The "put" option would allow government to return its shares to the directors and demand payment of the agreed price if the company altered its investment policy. With a "call" option, directors can buy back their shares at an agreed price when the future appears promising or when they are able to obtain funds from the private sector.

26 See Binhammer, Lepore, and McDonough, "Government Grants to Private Firms." This amount includes $77 million in production subsidies and $218 million in investment subsidies, as defined in Appendix C of this report.

27 For example, direct subsidies are granted to encourage research and development activities (IRAP, DIP) and regional development (DREE) or to promote specific sectors such as shipbuilding (SIAP).

28 It should be pointed out that assistance granted under the Small Businesses Loans Act is administered directly by the banks rather than by the government.

CHAPTER 4

1 Export credit risks are described in R. Tremblay, "La médiation financière et l'assistance financière à l'exportation," a paper prepared for the Economic Council of Canada, June 1981.

2 This section is based largely on Jean-Marie Dufour, Daniel Racette, and André Raynauld, "L'aide publique au financement des exportations," a paper prepared for the Economic Council of Canada, 1982.

3 See J. Douglas Gibson, *Report on Canadian Financing Facilties for Exports*, May 14, 1968.

4 "The EDC Corporate Purpose." This paper states: "EDC's purpose or goal is to facilitate and develop Canada's export trade within the framework of the Export Development Act. EDC pursues its purpose by providing insurance, guarantee and loan facilities which, combined with financial advice and the organization of financial service packages, fosters the ability of firms selling Canadian goods and services to compete effectively abroad. It strives within its financial capacity to provide services that are internationally competitive so that, in the context of requirements for specific transactions, firms which are competitive in terms of price, quality, delivery and service are also effectively competitive in terms of the availability of financial services. Through its services and activities, EDC seeks to enhance the economic benefits of exports and to further the interests of Canada by assisting in improving Canada's balance of payments, by optimizing the Canadian content of exports, and by complementing government trade policy, recognizing that EDC's purpose derives from the national objective of developing and maintaining an economically sound international trading position for Canada."

5 In addition, the EDC does not cover the risks of either theft or destruction of goods shipped; however, these risks are not related to export credit activities.

6 A recent reorganization of export assistance programs has transferred the responsibility for commercial attachés abroad from the Department of Industry, Trade and Commerce to the Department of External Affairs. The government of Quebec has also recently set up an Office du commerce extérieur under the responsibility of a cabinet minister.

7 In 1980, some 87 per cent of Canada's exports to the United States were not insured.

8 A large number of export credit transactions, particularly of a short-term nature, are insured by the exporting companies themselves. In other words, these companies bear the risk of default in the trade credit they have extended. But this is no different from what happens in domestic transactions.

9 Note that the figures published by the banks and by the EDC are not strictly comparable. The banks' statistics do not necessarily refer to the financing of Canadian exports, and the geographical distribution of the loans is based on the location of the borrower's headquarters.

10 Robert M. Stern, Jonathan Francis, and Bruce Schumacher, *Price Elasticities in International Trade: An Annotated Bibliography* (Toronto: Macmillan, 1976).

11 See Sylvester Damus, "The Allocative Effects of Government Financial Intermediation in Canada," a paper prepared for the Economic Council of Canada, 1982.

12 A turn-key project involves the export of capital goods (and sometimes consumer goods) and some assembly by the exporter in the purchaser's country, as in the case of a Candu reactor. A consortium of exporters is usually set up for this purpose.

13 Economic Council of Canada, *For a Common Future: A Study of Canada's Relations with Developing Countries* (Ottawa: Supply and Services Canada, 1978), pp. 73-74.

14 Export Development Corporation, *The Case for Official Support of Canadian Capital Growth Exports* (Ottawa: EDC, 1982), p. 38.

15 See *Canada's Trade Challenge: Report of The Special Committee on a National Trading Corporation* (Ottawa: Supply and Services Canada, 1981).

16 EDC, *The Case for Official Support*.

17 Dufour, Racette, and Raynauld, "L'aide publique au financement des exportations."

18 Alex Wallen, "Arrangement on Guidelines for Officially Supported Export Credits: Interest Rate Study" (Paris: OECD, January 10, 1980).

CHAPTER 5

1 The consolidation avoids double-counting attributable to the fact that the debt owed by provincial agencies to the CMHC is included in the latter's assets.

2 "Approved lenders" are those which are approved on an individual company basis by the Governor-in-Council for the purpose of making loans under the National Housing Act. The majority of them are chartered banks and life insurance, loan, or trust companies. This means that, for many purposes, the activity of "approved lenders" under the NHA may be taken as equivalent to the NHA activity of the group of companies referred to as "lending institutions."

3 This figure includes only projects administered by lending agencies and thus excludes the Alberta Housing Agency, the Provincial Rental Agency Corporation of British Columbia, and the British Columbia Housing Management Commission. We are not directly interested here in direct investment in social housing nor in loans granted to the public sector, since these transactions do not constitute financial assistance to the private sector. However, it is at times difficult to make a distinction between loans to individuals and promoters, and activities related to the financing and operation of public housing, with the result that these two categories of activities must therefore be analysed jointly.

4 The statistical data available do not permit separation of personal and unincorporated-business liabilities. However, this chapter is concerned only with mortgage finance of owned and rented homes. Commercial mortgages have been discussed in Chapter 3.

5 Because of legal costs and real estate agency commissions, the cost of moving for homeowners exceeds that for tenants by about 10 per cent of the value of the house or by an amount corresponding roughly to the gross rental value for one year. Marion Steele, *The Demand for Housing in Canada*, Statistics Canada, no. 99-763, December 1979, p. 41.

6 Paul de Rosa, "Mortgage Rationing and Residential Investment: Some Results from a Brainard-Tobin

Model," *Journal of Money, Credit and Banking* X, no. 1 (February 1978):75-87.

7 Statistics Canada, "Home Ownership and Mortgage Debt in Canada, 1977" (uncatalogued publication), July 1979.

8 The difference in equity between homeowners with or without a mortgage may also depend on other factors, such as inheritance, making a shrewd purchase during a period of depressed prices, the number of payments made on the mortgage debt, and therefore the length of residence in the home. Inheritance must play a secondary role, given the high proportion of homeowners without mortgages and the fact that their average income and their real estate equity are lower than that of homeowners with mortgages. Finally, it is unlikely that differences in the period of repayment for mortgages in the case of homeowners under 35 are large enough to explain the disparities in the value of properties, the amount of equity, and the amount of mortgage debt.

9 Statistics Canada, *Survey of Consumer Finances, 1970*, Part I, no. 13-550 (occasional), p. 156.

10 A more detailed breakdown of these figures is unavailable, because they were obtained by subtracting, from the estimated value of all housing starts, the cost of housing starts financed through loans by the federal government and lending institutions. In particular, it is impossible to isolate the provinces' contribution to housing starts. In addition, it is impossible to obtain an estimate of the entire contribution of equity to the financing of housing starts, since part of this is included in the "other" category. Only that part of equity that is contributed at the same time as mortgage loans from the federal government and lending institutions is available.

11 The figures in Tables 5-4 and 5-5 include mortgage loans supplied under the Veterans' Land Act and the Farm Improvement Loans Act. The relative importance of funds supplied under these two acts has steadily declined over time. The mortgages to farmers are considered in Chapter 6. We do not consider these two acts in our analysis of housing finance.

12 Statistics Canada, *Financial Flow Accounts, 1961-79*, no. 13-563, Table 4.

13 Clayton Sinclair, "The Illusion of Rising House Prices: Tricky Financing Hides a Big Drop in Real Value of Homes," *The Financial Times of Canada*, April 12, 1982.

14 A few examples can serve to illustrate this point. The goal of NHA insurance is "to promote high volume and stability in the flow of non-governmental mortgage funds to residential mortgage financing for new and existing housing." The Assisted Home Ownership Program offered by the CMHC was intended "to encourage the production of moderately-priced housing for homeowners, through the provision of interest reduction loans and subsidies to qualifying purchasers." The objective of the Ontario Home Renewal Program is "to assist owner-occupants to repair their houses, especially substandard structural and sanitary conditions, plumbing, heating and electrical systems and insulation." In Alberta, the objective of the Core Housing Incentive Program is "to stimulate the production of market rental housing and modest rental housing in all communities with a population over 5,000 and in specified growth communities." The goal of Nova Scotia's New Home Mortgage Program is "to relieve the burden of interest rates for new home buyers in Nova Scotia and to stimulate the building industry by making funds available for the construction of single family dwellings."

15 Federal Task Force on Housing and Urban Development, *Report* (Ottawa: Queen's Printer, January 1969), p. 35.

16 Canada Mortgage and Housing Corporation, *Annual Report, 1980* (Ottawa: CMHC, pp. 6-7.

17 Task Force on Canada Mortgage and Housing Corporation, *Report* (Ottawa: CMHC, October 1979), pp. 55, 88-92, 111-117, and 132.

18 Royal Commission on Banking and Finance, *Report* (Ottawa: Queen's Printer, 1964), p. 277.

19 Philip S. Morrison, "Mortgage Lending in Canadian Cities," University of Toronto, Centre for Urban and Community Studies, Research Paper no. 111, November 1979.

20 The presentation of CMHC housing statistics varied from year to year. Data for comparison of CMHC and approved-lender clienteles were published only in 1974 and on one earlier occasion.

21 Gordon G. Thiessen, "Federal Government Lending as an Instrument of Economic Policy in Canada, 1954-1964," unpublished doctoral dissertation, University of London, 1972, p. 350.

22 Ontario. Ministry of Housing, *Annual Report, 1978/79* (Toronto: Queen's Printer, 1979) p. 43.

23 CMHC, *Annual Report, 1980*, p. 28.

24 Canada Mortgage and Housing Corporation, "The Long-Term Outlook for Housing in Canada, and its Implications for the Residential Construction Industry," Ottawa, May 1980, p. 31.

25 George Fallis, *Housing Programs and Income Distribution in Ontario* (Toronto: University of Toronto Press, 1980), pp. 26-37.

26 John P. Herzog, "Housing Affordability and Mortgage Terms in an Inflationary Environment," Simon Fraser University, Department of Economics and Commerce, Paper no. 78-7-2, p. 7-11.

27 Regulations for "shared appreciation mortgages" were issued by the Federal Home Loan Bank Board on September 30, 1980. These mortgages pose problems related to the taxation of the lender's contingent interest or his share in eventual capital gains.

28 Jonathan R. Kesselman, "Mortgage Policies for Financial Relief in Inflationary Periods," *Canadian Public Policy* III, no. 1 (Winter 1981):82-93.

29 Indexation will reduce the lending risk associated with inflation if it can be considered as a permanent feature and if the index used will not be changed artificially.

30 Lawrence B. Smith, "Federal Housing Programs and the Allocation of Credit and Resources," in L. B. Smith and James E. Pesando, eds., *Government in Canadian Capital Markets* (Montreal: C. D. Howe Research Institute, 1978), p. 56.

31 George Fallis, "Governments and the Mortgage Market," a paper prepared for the Economic Council of Canada, December 1981.

32 The difference between the cost of a subsidy to government (or government outlay) and the recipient's welfare gain has two components. One is administrative cost, not considered at this point because much of it would be incurred by any other redistribution scheme. The other component is the constraint put by the program on the recipient's use of money. Money that can only be used for housing is worth less than a nominally equivalent amount in general purchasing power.

33 Fallis, *Housing Programs*, p. 141.

34 Thiessen, "Federal Government Lending," p. 357.

35 Economic Council of Canada, *Toward More Stable Growth in Construction* (Ottawa: Information Canada, 1974), p. 225.

36 Smith, "Federal Housing Programs," p. 55.

CHAPTER 6

1 George L. Brinkman, *Farm Income in Canada*, Economic Council of Canada and the Institute for Research on Public Policy (Ottawa: Supply and Services Canada, 1981, Table 6-1.

2 Information for this section was obtained from the following sources: W. T. Easterbrook, *Farm Credit in Canada* (Toronto: University of Toronto Press, 1938); W. M. Drummond and W. MacKenzie, *Progress and Prospects of Canadian Agriculture*, Royal Commission on Canada's Economic Prospects, (Ottawa, 1957); W. C. Hood, *Financing of Economic Activity in Canada*, Royal Commission on Canada's Economic Prospects, (ottawa, 1958); D. W. Carr and Associates, "Farm Credit in Canada," a working Paper prepared for the Royal Commission on Banking and Finance, November 1962.

3 "The object and purpose of the FCC are to make and to administer and supervise farm loans as provided in the Farm Credit Act, in order to facilitate the organization of Canadian agriculture into viable farm units (preferably family farms) in the hands of competent operators so that agriculture may make the greatest possible contribution to the Canadian economy and provide farmers with equitable returns for their investments of capital, work and skill... When the demand for loans is much greater than available funds, which has been the case in the last five years, loans must be directed to those with the greatest need. This eliminates many applicants who already have a viable unit or those who can readily obtain financing from private lending institutions. A second element directs a large portion of our loans towards young farmers and particularly those establishing new farms." See Farm Credit Corporation, *Annual Report, 1979-80*, pp. 9-10.)

The objective of the Nova Scotia Farm Loan Board under the Agricultural and Rural Credit Act is "to make loans . . . or guarantee loans . . . for the purpose of acquiring any farm, part, machinery or equipment."

4 Agriculture Canada, *Orientation of Canadian Agriculture: A Task Force Report*, vol. II (Ottawa, 1977) pp. 1-31 and Figure 1.

5 Layne Hetland, General Manager, Saskatchewan Farmstart Corporation, quoted in *Proceedings* of the National Conference of the Farm Credit Corporation, Ottawa, October 8-11, 1979, pp. 36-37.

6 Robert Saint-Louis and Jean-Pierre Lachapelle, "Le financement de l'agriculture dans le contexte institutionnel et dans l'environnement économique des années 1970 au Canada : synthèse et perspectives," a paper prepared for the Economic Council of Canada, March 1982.

7 Data for 1976 had to be used in some instances as, at the time of writing the final draft of this report, only preliminary data from the 1981 census were available.

8 The farm finance data are presented in two separate tables because they are not strictly comparable. Some data were obtained directly from the lending institutions by Agriculture Canada. Others were estimated on the basis of detailed sample surveys of farm finances. The figures published until last year were compiled on the basis of a 1964 survey. A survey relating to 1980 financial structures and carried out in 1981 by the FCC has led to revisions back to 1970. In general, the most robust data are those for the years closest to the survey dates. The trends revealed by the tables should also be considered as accurate since they were not modified by the revisions that followed the 1980 survey.

9 Estimates for guarantees extended by the federal and provincial governments are only available for the years 1978 and 1979. In 1979, long-term private loans guaranteed by government represented 8 per cent of total farm credit outstanding.

10 Such provisions are found, for example, in the Debt Adjustment Acts passed in 1933 in Saskatchewan and in 1933, 1936, and 1937 in Alberta. A description of these measures can be found in Easterbrook, *Farm Credit in Canada*. In particular, it can be seen that a financial institution was allowed to proceed with forclosure, only if the farmer concerned had not replied to the Board's enquiries, had consented to foreclosure, or had abandoned the farm.

11 D. W. Carr and Associates, "Farm Credit in Canada."

12 A senior manager of the Farm Credit Corporation observed in 1979 that, because of government budgetary restraints, FCC lending had to be restricted at a time when demand for long-term credit was increasing, and that "such restraints and a buoyant agriculture economy had resulted in the greater participation by private lending institutions in the extension of long-term credit to farmers." He added that the major chartered banks had developed various

types of agricultural lending programs, adding a new element to the environment within which the FCC is mandated to operate. See *Proceedings*, p. 10.

13 As part of the Economic Council's study of farm credit in Canada, staff members met in December 1981 and January 1982 with 30 farmers in Quebec, Ontario, and Alberta. These farmers were chosen by the Farm Credit Corporation as being representative of very diverse aspects of farming. They were operating farms of different sizes and of different types – i.e., grain, beef, hog or mixed crops. They were in different financial situations, some of them in serious straits.

14 The Canadian Bankers' Association, *Proceedings of the Ninth Agricultural Credit Conference*, London, Ontario, 25-28 October 1981.

15 The classification of farms by province and size is that used in the FCC 1980 Survey of Farm Finances.

16 Another factor contributing to the greater proportion of long-term debt of small farms is that some are owned by part-time farmers with more or less steady jobs in town; their long-term farm debt is akin to an urban residential mortgage.

17 When production is regulated by quotas, any attempt to increase the level of production will exert upward pressures on the price of quotas. But if quotas can only be transferred by the sale of land, any measure that exerts upward pressures on the price of quotas affects the price of land to the same extent.

18 Those figures are derived from estimates of cash rents paid by farm leaseholders.

19 See Brinkman, *Farm Incomes in Canada*, pp. 19-21. Our comparison was between current-dollar income and capital appreciation.

20 Economic Council of Canada, *Reforming Regulation* (Ottawa: Supply and Services Canada, 1981), p. 54.

21 John E. Floyd, "The Effects of Farm Price Supports on the Returns to Land and Labor in Agriculture," *Journal of Political Economy* 73 (April 1965): 148-58.

22 See Saint-Louis and Lachapelle, "Le financement de l'agriculture."

23 The Farm Credit Corporation's annual report for 1981 states that "of the loans declined . . . 32 per cent were declined because of insufficient repayment potential, 30 per cent [because the applicants] had the resources and repayment potential to get credit elsewhere, 16 per cent were not planning to become principally occupied in farming and 22 per cent [of the loans] were declined for other reasons."

24 Brinkman, *Farm Incomes in Canada*, pp. 6-7, and Table 2-2.

25 J. D. Forbes, R. D. Hughes, and T. K. Warley, *Economic Intervention and Regulation in Canadian Agriculture*, Economic Council of Canada and Institute for Research on Public Policy (Ottawa: Supply and Services Canada, 1982), pp. 34-36.

CHAPTER 7

1 The economic efficiency of government intervention is defined in relation to a social optimum. An intervention is economically or socially efficient if it brings society closer to such an optimum. Technical efficiency is assessed with respect to the means employed. Does government minimize costs when employing financial instruments? Technical efficiency is a necessary condition for economic efficiency to be achieved, but an intervention can be technically efficient without being economically or socially efficient if, for example, the nature of the problem that prompted government intervention has been improperly identified.

2 Banks treat separately the various deposit and loan categories in their business plan and adopt different market strategies for each of them. In a large branch, personal loan activities are physically separated from business loan activities.

3 The accounting rate of return of the private sector is obtained by dividing the net income from loans and investments of a private financial institution – that is, the income from interest, dividends, and capital gains – by the sum of its debt and equity.

4 The bad debts that may be assumed by government are not attributable to a greater risk of default but to a portfolio too small to allow for an adequate diversification of risks.

5 The list of recommendations of the Canadian Foundation for Integrated Auditing can be found in *Rapport du Vérificateur général à l'Assemblée nationale pour l'année financière terminée le 31 mars 1981* (Québec : Éditeur officiel du Québec, December 1981).

6 This issue has been studied thoroughly in the United States. See Congressional Budget Office, *Loan Guarantees: Current Concerns and Alternatives for Control* (Washington, D.C.: G.P.O., August 1978).

7 Seventeen of the 29 agencies have Cabinet ministers or public servants on their board of directors. The minister responsible sits on the board of directors of nine of the 29 agencies; in six cases, he is also the chairman of the board. Deputy ministers sit on the board of directors of 11 agencies, while the minister and deputy minister sit together on the boards of directors of three agencies. The board of directors of the Export Development Corporation includes six senior public servants: the deputy ministers of Industry, Trade and Commerce, Finance, and External Affairs; the governor of the Bank of Canada; the chairman of the Federal Business Development Bank; and the president of the Canadian International Development Agency. Quite often, the chairman of the board of directors of an agency is a former public servant.

8 The reserve is a general fund put aside for a rainy day and, contrary to the usual practice of making provision for loan losses, is not related to the risk of financial loss on any individual loan. A reserve will be established if the financial institution expects to experience financial difficulties of any kind, whereas a provision for loan losses will be set up to cover the amounts that an

institution expects to lose on loans for which repayment is doubtful. These amounts are determined through enumeration or by sampling methods.

9 In this chapter, this common expression, found in all annual reports and widely used by auditors, designates the codification of CICA. It is found in Canadian Institute of Chartered Accountants, CICA *Handbook* (Toronto: CICA, 1968).

10 See CICA, *Financial Reporting by Governments* (Toronto: CICA, 1980). The lack of standards of financial disclosure extends to all nonprofit organizations as well. See CICA, *Financial Reporting for Non-Profit Organizations* (Toronto: CICA, 1980).

11 See "Canada Business Corporations Regulations," Part 5, section 44, cited in *Consolidated Regulations of Canada, 1978*, vol. 4, (Ottawa: Queen's Printer, 1978), p. 3,064.

12 CICA, Task Force on the Bank Act, "Submission to House of Commons Standing Committee on Finance, Trade, and Economic Affairs," September 15, 1978.

13 Canada, Privy Council Office, *Crown Corporations: Direction, Control, Accountability: Government of Canada's Proposals* (Ottawa: Supply and Services Canada, 1977).

14 Canada, Royal Commission on Financial Management and Accountability (the Lambert Commission), *Final Report* (Ottawa: Supply and Services Canada, 1979).

CHAPTER 8

1 The balance of 5 per cent represents loans and guarantees granted to the fisheries and natural resources sectors, as well as certain forms of assistance extended to students and other groups.

2 If the various securities traded in financial markets are perfect substitutes – i.e., if they are considered by the participants as perfectly interchangeable or almost – government activities will have no effect on the allocation of financial resources. In this case, governments would buy and sell securities that would represent virtually the same thing. This situation could exist in modern finance where a portfolio manager can create any new security by combining two existing securities. While interest rates do fluctuate simultaneously, indicating that there is a high degree of interchangeability, the latter is not perfect, as shown by the low sensitivity of the demand for financial securities to variations in their yield differentials. This is demonstrated by the equations of CANDIDE 2.0 model dealing with financial securities by nonfinancial enterprises and households.

3 A more complete analysis of the effect of government intermediation, with or without a subsidy, on financial- and real-resource allocation can be found in Sylvester Damus, "The Allocative Effects of Government Financial Intermediation on Resource Allocation," a paper prepared for the Economic Council of Canada, 1982.

4 Amir Barnea, Robert A. Haugen, and Lemma W. Senbet, "An Equilibrium Analysis of Debt Financing Under Costly Tax Arbitrage and Agency Problems," *Journal of Finance* 36, no. 3 (June 1981):569-81.

5 This microeconomic model reflects the input-output relationships in the economy and takes into account the various taxes and tariffs. It also takes into account the type of financing – debt or equity – and consequently reflects the impact of the subsidy on the debt/equity ratio. For more details, see Damus, "The Allocative Effects."

6 Some assistance programs, especially in the housing and agriculture sectors, are aimed, among other objectives, at reducing fluctuations in the level of activity in those sectors and, indirectly, in the overall economy. For example, one of the objectives of the National Housing Act is to stabilize residential construction activities. As already mentioned, other programs have been initiated in the early 1980s to offer assistance to farmers, homeowners, or house buyers and to small businesses having to contend with high interest rates. These programs which are applied for a short time only – usually two years – are designed to ensure that all operators, small or large, share equally the burden of the fight against inflation; they could also be seen as programs whose aim is to ensure that global economic measures do not cause excessive fluctuations in the level of activity in certain sectors.

7 F. Delorme, "Politique sélective de subvention et stabilisation économique dans un contexte inflationniste," research document prepared for the Economic Council of Canada, mimeo, 1982.

APPENDIX A

1 The methodology for the calculation of the subsidy has been developed by Mintz, "Determining the Subsidy Involved with Government Credit Programs," a paper prepared for the Economic Council of Canada, June 1980.

APPENDIX C

1 This matter was also analysed by M. J. Gordon and L. D. Booth, "Financial Considerations in Providing Inducements for Private Investment: The Implications for Employment Level and Stability," Labor Market Development Task Force, May 6, 1981.

2 These changes in behaviour are referred to as agency costs. The term "agency costs" arose from the view that management is an agent of shareholders and creditors likely to look after its own interests as much as after the interests of its principals, and with a greater sense of community of interests with shareholders than with creditors. A collection of studies on the subject may be found in A. Barnea, R. A. Haugen, and L. W. Senbet, "Market Imperfections, Agency Problems and Capital Structure: A Review," *Financial Management* (Summer 1981):7-25.

APPENDIX D

1 This subsidy is different from the measure used in our report and presented in Appendix A.

2 Export-Import Bank of the United States, *Report to the U.S. Congress on Export Credit Competition and the Export-Import Bank of the United States* (Washington, D.C.: G.P.O., July 1977), p. 9.

3 TD/CONSENSUS/81.38, Paris, 22 February 1978, pp. 3 and 4.

APPENDIX E

1 See Damus, "The Allocative Effects of Government Financial Intermediation."

2 The increased EDC support is assumed to be directed to exports of electrical and nonelectrical machinery, and transport equipment other than motor vehicles and parts. The support consists of subsidized loans in an amount equal to 85 per cent of the value of new exports. The EDC is assumed to finance the new loans by alternatively borrowing at home and abroad. The government's expense for loan subsidies is assumed to be covered by an increase in federal personal income taxes. The amount of additional subsidies required is calculated on the basis of the price elasticity of foreign demand for these products.

Subsidy estimates for the simulation under hypothesis I were provided by the EDC and made under the assumption that the EDC operates as a discriminatory monopolist, so as to minimize the amount of subsidy needed to induce an additional dollar's worth of exports. The EDC figure was based on a demand elasticity for the three export categories considered as a single commodity. For the simulation under hypothesis II, a higher amount of subsidy was obtained by taking as a starting point the demand elasticity for each of the three goods individually. Under this hypothesis it is assumed that importers ultimately pay for the goods received from Canada by – directly or indirectly – shipping goods to Canada in exchange for Canadian dollars required to make their Canadian-dollar payments. In this case, world trade is balanced by an exchange of goods. Under hypothesis I world trade balances partly by shipment of goods and partly through international monetary flows, such as continuously renewed international export loans. The actual equilibrating mechanisms are somewhere between the two assumed ones. It should be noted that the simulations assume that the act of granting a new subsidy invariably results in additional exports. As we have seen in Chapter 4, that is not necessarily the case.

APPENDIX F

1 James R. Kearl, "Inflation, Mortgages, and Housing," *Journal of Political Economy* 87, no. 5, Part 1 (October 1979):1115-38; Robert M. Schwab, "Inflation, Expectations and the Demand for Housing," *American Economic Review* 72, no. 1 (March 1982):143-53; James R. Follain jr., "Does Inflation Affect Real Behaviour: The Case of Housing," *Southern Economic Journal* 48, no. 3 (January 1982):570-82.

2 Regarding the demand for indexed securities and the possibility that they will command a premium over unlinked securities, see Stanley Fisher, "The Demand for Index Bonds," *Journal of Political Economy* 83, no. 3 (June 1975):509-34.

3 In "Risk and the Theory of Indexed Bonds," *American Economic Review* 67, no. 3 (June 1977):366-75, Nissan Liviatan and David Levhari explain the conditions under which borrowers would like indexed loans, apart from the affordability question. Their analysis, as well as Fisher's, shows that indexed securities would not displace the traditional ones, which leads one to believe that the introduction of indexation would not be very disruptive of financial markets. There have been instances of indexation to something other than a general price index. See Sally Hunt Streiter, "Indexed Bonds and Other Issues," *Public Utilities Fortnightly* (June 10, 1982):40-47.

4 This is the same as Alan Blinder's "national inflation mutual fund" idea, developed in "Indexing the Economy through Financial Intermediation," Carnegie-Rochester Conference, Pittsburgh, November 14-15, 1975.

5 J. Huston McCulloch, "Incentives and Proxies for Indexed Bond Issues: Reply," *American Economic Review* 72, no. 3 (June 1982):566-68.

List of Tables and Charts

Tables

1-1	Assets of Selected Financial Institutions, Canada, 1980	2
1-2	Government Assistance to the Private Sector through Financial Instruments, Canada, Selected Years, 1930-80	3
1-3	Growth Rate of Provincial and Federal Government Assistance to the Private Sector through Financial Instruments and of GNP, Canada, Selected Periods, 1930-80	4
1-4	Distribution of Government Assistance to the Private Sector through Financial Instruments, by Sector, Canada, Selected Years, 1930-80	6
1-5	Federal Share of Government Assistance to the Private Sector through Financial Instruments, by Sector, Canada, 1980	7
1-6	Distribution of Government Assistance to the Private Sector through Financial Instruments, Provided through Programs and on an Ad Hoc Basis, by Sector, Canada, 1980	8
1-7	Share of Government Debt Outstanding Attributable to Selected Government Financial Institutions, by Government, Canada, 1980	8
3-1	Major Government Agencies and Programs Providing Loans, Investments, and Loan Guarantees to the Business Sector, Canada, 1980	18
3-2	Distribution of Corporate Financing, by Category of Instrument and by Size of Firm Assets, Canada, 1977	21
3-3	Business Financing Instruments Offered by Private Financial Institutions, Canada, 1980	22
3-4	Distribution of Independent Firms in the Primary and Secondary Sectors, by After-Tax Rate of Return of Assets and by Size of Assets, Canada, 1977	25
3-5	Distribution of Independent Firms in the Primary and Secondary Sectors, by Debt-to-Asset Ratio and by Size of Assets, Canada, 1977	25
3-6	Cumulative Distribution of the Number of Loans Extended to Businesses by Four Public Financial Institutions, by the Clients' Sales Volume, Canada, 1977-79	31
3-7	Distribution of the Number of Loans Extended to Businesses by Six Public and Private Institutions, by Size of the Clients' Assets, Canada, 1977-79	32

3-8 Distribution of the Value of Loans Extended to Businesses by Six Public and Private Institutions, by Size of the Clients' Assets, Canada, 1977-79 32

3-9 Average Size of Loans Extended to Business by Selected Government Agencies or Programs, Canada, 1977-79 34

3-10 Distribution of the Assistance Extended to Business Firms by Selected Federal Agencies and Programs, and of the Gross Domestic Product, by Province, Canada, 1979 39

3-11 Distribution of Government Assistance Extended to Business Firms, of the Gross Domestic Product (Manufacturing), and of Private Investment, by Province and Territory, Canada, 1979 39

3-12 Distribution of Loans and Loan Guarantees Extended by Selected Government Agencies and Programs, and of the Provincial Gross Domestic Product, by Industrial Sector, Ontario, 1979 40

4-1 Types of Insurance Programs and Loan Guarantees Offered by the Export Development Corporation, Canada, 1980 45

4-2 Average Cost of Insurance Provided by the EDC, Canada, 1971-80 48

4-3 Bank Participation in EDC Loans, Canada, 1972-80 49

4-4 Distribution of Canadian Exports Insured by the EDC, by Category, 1969-80 53

4-5 Distribution of Canadian Exports, by Destination, 1968-81 54

4-6 Distribution of EDC-Insured Exports, by Destination, Canada, 1969-80 54

4-7 Distribution of Total Canadian Exports and of EDC-Insured Exports, and Insurance Coverage Ratio, by Destination, 1980 55

4-8 Distribution of EDC Loan Authorizations, by Destination, Canada, 1969-80 55

4-9 Distribution of Total Canadian Exports and of EDC-Financed Exports, and Financing Coverage Ratio, by Destination, 1980 56

4-10 Publicly Supported Export Credit Outstanding, with a Term to Maturity Greater than 1 Year, Selected OECD Countries, December 31, 1980 58

4-11 Minimum Interest Rate for Public Export Loans, as Set in the OECD Consensus Agreement, Effective July 1982 59

5-1 Major Government Agencies and Programs Providing Loans and Loan Guarantees to the Housing Sector, Canada, 1980 65

5-2 Average Income of Homeowners and Value of Homes with and without Mortgages, by Age of Owner, Canada, 1977 67

5-3 Value of Homes with and without Mortgages, by Income of Owner, Canada, 1977 67

5-4 Distribution of Funds for Expenditure on New Housing, by Source, Canada, Selected Years, 1954-81 69

5-5 Mortgage Loans Outstanding, by Type, Canada, Selected Years, 1954-80 69

5-6 Claims on CMHC and MICC Mortgage Insurance, Canada, 1975-81 74

5-7	Simulated Effects of Additional Mortgage Loans and Subsidies, Canada, Selected Years, 1982-87	82
5-8	Distribution of Mortgages, Homeowners, and Renters, by Income Group, Canada, 1976 and 1977	83
6-1	Major Government Agencies and Programs Providing Loans and Loan Guarantees to Farmers, Canada, 1980	89
6-2	Capital and Employment in Farming, Canada, Selected Years, 1941-81	91
6-3	Total Capital, Equipment and Machinery at Constant Prices, and Employment in Agriculture, Canada, Selected Years, 1941-80	92
6-4	Total Capital, Equipment and Machinery, and Production per Worker Employed in Agriculture, at Constant Prices, Canada, Selected Years, 1941-80	92
6-5	Selected Farm Financing Ratios, Canada, 1970-80	93
6-6	Distribution of Funding in Agriculture, by Term of Credit and by Source, Canada, Selected Years, 1961-71	94
6-7	Distribution of Funding in Agriculture, by Term of Credit and by Source, Canada, Selected Years, 1971-80	95
6-8	Proportion of Farm Producers Using Financial Services, by Age Group and by Type of Instrument, Ontario and the Prairies, 1981	98
6-9	Distribution of All Farms, by their Equity-to-Asset Ratio and by Sales Category, Canada, 1981	98
7-1	Assets, and Administrative Expenditures and Provision for Losses as a Proportion of Loans and Investments Outstanding, Selected Financial Institutions, Canada, 1978-79 (Average)	108
7-2	Distribution of Liabilities of Selected Government Agencies, by Type and by Sector, Canada, 1980	111
7-3	Major Deficiencies of Annual Reports and Financial Statements of Selected Government Agencies, by Sector, Canada, 1979	114
7-4	Rate of Return to Assets, Selected Government Agencies, Canada, 1978 and 1979	115
7-5	Statement of Revenue and Expenditure of a Public Lending Agency, as Published and Recast, 1979	116
A-1	Government Subsidies Incorporated in Loans and Loan Guarantees, as Measured by the Cash-Cost and Social-Opportunity Cost Methods, by Sector, Canada, 1979	133
A-2	Components of the Subsidies Incorporated in Government Loans to Businesses, by Lending Agency, Canada, 1979	134
A-3	Components of the Subsidies Incorporated in Government Loans to the Agriculture, Housing, and Export Sectors, by Lending Agency, Canada, 1979	135
A-4	Subsidies and Subsidy Rate Incorporated in Government Loan Guarantees, by Sector, and by Lending Agency, Canada, 1979	136
A-5	Average Subsidy per Loan on the Books, Selected Agencies Lending to the Business and Agriculture Sectors, Canada, 1979	137
B-1	Distribution of Government Assistance and Economic Indicators, by Sector and by Province, Canada, 1979	139

B-2 Provincial Distribution of Government Assistance to the Business Sector, by Instrument and by Level of Government, Canada, 1979 140

B-3 Provincial Distribution of Government Assistance to the Housing Sector, by Instrument and by Level of Government, Canada, 1979 140

B-4 Provincial Distribution of Government Assistance to the Agricultural Sector, by Instrument and by Level of Government, Canada, 1979 141

B-5 Provincial Distribution of Government to the Business, Housing, and Agriculture Sectors Combined, by Instrument and by Level of Government, Canada, 1979 141

B-6 Share of Federal and Provincial Governments in Assistance to the Business Sector, by Province and by Instrument, Canada, 1979 142

B-7 Share of Federal and Provincial Governments in Assistance to the Housing Sector, by Province and by Instrument, Canada, 1979 142

B-8 Share of Federal and Provincial Governments in Assistance to the Agricultural Sector, by Province and by Instrument, Canada, 1979 143

B-9 Share of Federal and Provincial Governments in Assistance to the Business, Housing, and Agriculture Sectors Combined, by Province and by Instrument, Canada, 1979 143

C-1 Effect of Various Forms of Government Subsidy on Businesses in the Private Sector 148

D-1 Major Financial Institutions Specialized in Export Credit and Credit Guarantees, Selected OECD Countries, 1982 153

D-2 Frequency of Use of Export Insurance Programs, Selected OECD Countries, 1982 157

D-3 Export Credits with a Term of More than One Year Receiving Government Support, OECD Countries, December 31, 1980 157

D-4 Interest Rates for Public Export Credits and Publicly Guaranteed Credit, Selected OECD Countries, 1980 and 1981 158

D-5 Estimated Implicit Subsidy and Subsidy Rates Based on Cost of Funds, Selected OECD Countries, 1976 158

E-1 Simulated Impact of a $1 Billion (1971 Dollars) Increase in Canadian Exports Generated by an Export Development Corporation Subsidy, 1981-87 160

E-2 Comparative Impact of Increased Export Assistance and Government Expenditures on Selected Indicators, Canada, 1987 161

F-1 Comparison of Standard and Indexed Residential Mortgages 165

F-2 Comparison of Standard and Indexed Farm Mortgages, with Random Inflation and Relative Price Changes 166

F-3 Comparison of Standard and Indexed Mortgages, with Random Changes in Inflation: Full Indexation without Tax Relief 167

F-4 Comparison of Standard and Indexed Mortgages, with Random Changes in Inflation: Partial Indexation without Tax Relief 168

Charts

3-1 Shares of Government and Selected Groups of Private Institutions in the Supply of Loans and Investments to Businesses, Canada, 1980 17

3-2 Business Trade Credit as a Proportion of Short-Term Liabilities and of Total Assets, by Size of Assets, Canada, 1977 23

3-3 Chartered Banks' Term Loans as a Proportion of their Total Loans, Canada, 1959-81 23

3-4 Ratio of Business Operating Income (before Amortization, Interest, and Taxes) to Interest on Debt, by Size of Assets, Canada, 1977 26

3-5 New Businesses as a Proportion of Total Clients of Selected Public and Private Financial Institutions, Canada, April 1, 1977 to March 31, 1979 31

3-6 Rates of Return before Interest and Taxes of Clients of Public and Private Financial Institutions, by Size of Assets, Canada, 1977 33

3-7 Debt-to-Asset Ratios of Clients of Public and Private Financial Institutions, Canada, 1977 33

3-8 Ratio of Current Taxes Paid to Cash Flow of All Business Firms, by Size of Assets, Canada, 1977 37

4-1 Growth of Canadian Exports, by Category, 1960-81 53

4-2 Canada's Share in OECD Imports and Exports to Selected Countries, 1962-80 56

5-1 Real Change in Mortgage Assets, Canada, 1965-81 70

5-2 Mortgage Loans Outstanding, by Type of Lender, Canada, 1926-80 71

5-3 Proportion of NHA Mortgage Accounts in Arrears for Three Months or More, Canada, by Quarter, 1977-82 73

5-4 Deviation from Trend of GNP and Housing Starts, Canada, 1951-81 85

6-1 Ratio of Capital to Value Added, Selected Sectors, Canada, 1944-76 90

6-2 Growth in the Consumer Price Index and the Value of Farm Lands and Buildings per Acre, Canada, 1950-80 91

6-3 Distribution of Farm Credit Outstanding, by Length of Term, Canada, 1961-80 93

6-4 Debt-to-Asset Ratio in Agriculture, Canada, 1970-80 97

6-5 Interest Coverage Ratio in Agriculture, Canada, Selected Years, 1961-81 101

8-1 Monthly Evolution of Chartered Banks' Prime Business Loan Rate and the Farm Credit Corporation's Lending Rate, Canada, 1970-82 124

Project Staff

A. Ryba, Director

Research

J. Carrière
S. Damus
F. Delorme
J.-M. Gagnon

Consultants

H. H. Binhammer
Royal Military College
R. Boadway
Queen's University
N. Bruce
Queen's University
Canada Consulting Group Inc.
Toronto
J. Chant
Simon Fraser University
W. E. Clendenning
E. Wayne Clendenning Consulting Limited
G. d'Avignon
Laval University
J.-M. Dufour
University of Montreal
G. Fallis
York University
J. Fried
University of Western Ontario
J. P. Lachapelle
Laval University
G. Lepore
Royal Military College
L. C. McDonough
Royal Military College
N. Matossian
E.R.A. Consulting Economists Inc.
J. Mintz
Queen's University
B. Papillon
Ottawa
D. Racette
University of Montreal
A. Raynauld
University of Montreal
H.-P. Rousseau
Laval University
R. Saint-Louis
Laval University
Touche Ross & Company
Ottawa
R. Tremblay
University of Montreal
D. Usher
Queen's University
A. Wohl
Ottawa

Support Staff

D. Barrette
C. Bazinet
M. Bélanger
C. Bothwell
A. Bourdon
M. Cassidy
A. Leduc
G. Longtin
O. McNeely
P. Mercier
J. Robinson
M. St-Cyr
J. Serjak
P. Sinclair
D. Warwick

Editing, Translation, Production and Graphics

M. Forand
S. Dorion
T. Hodgins
R. Lyle

L. Chabot
J.-G. Guertin
J.-P. Vallée

L. Séguin-Guénette
L. Desforges
L. Lacroix
L. Landriau
Y. Sawyer

C. Johnson
Y. D'Aoust
C. Sigouin